Balkan Smugg

Smuggling of Tobacco
Along the Balkan Route

# Illegal Trade of Tobacco Products:
## Smuggling as Experienced along the Balkan Route

the institute of economics, zagreb

The Institute of Economics, Zagreb
Zagreb, 2019

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**Illegal Trade of Tobacco Products: Smuggling as Experienced along the Balkan Route – BalkanSmugg**

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# Contents


**List of abbreviations:**

BA – Bosnia and Herzegovina

EU – European Union

GDP – gross domestic product

GVA – gross value added

HR – Croatia

I-O – input-output

ME – Montenegro

MIMIC - multiple indicators - multiple causes

MK – North Macedonia

MPPC - most popular price category

NMS – new member states

RCA – revealed comparative advantages

RS – Serbia

SI – Slovenia

TIRSP - tax included retail selling price

UDW – undeclared work

UE – unofficial economy

VAT - value added tax

WAP - weighted average price

WB – Western Balkans

XK – Kosovo. This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo Declaration of Independence.

# About the BalkanSmugg project

The research project "Illegal Trade of Tobacco Products: Smuggling as Experienced along the Balkan Route (BalkanSmugg)", funded by PMI IMPACT and implemented by the Institute of Economics, Zagreb from July 2017 to September 2019, assessed the illegal trade of cigarettes and other tobacco products in seven countries along the Balkan smuggling route.

The specific objective of the project was to produce a strong evidence base on the illegal trade of tobacco in Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, North Macedonia, and Kosovo. Therefore, the core of this research is represented by a survey assessment of smokers' attitudes and practices of buying cigarettes on the gray market and citizens' opinion regarding the illegal trade of cigarettes and other tobacco products. In 2018, we conducted a survey of 3,000 respondents per country, totaling 21,000 respondents in the region.

This BalkanSmugg study presents the key findings of the project. Analyzing tobacco consumption in seven Balkan countries, it sheds light on smokers' habits and practices in buying cigarettes and cut tobacco, including the experience of purchasing tobacco products on the gray market. The insights into the characteristics of the gray market, the typical purchase "package", and how smokers rated the quality and availability of products, offer valuable first-hand information. The main finding is the size of the gray tobacco market per country.

The study reveals the public opinion on acceptable behavior related to the illicit trade of cigarettes and tobacco products, and explores perceptions regarding their negative effects, making the BalkanSmugg project the first all-encompassing study of the gray market and illegal trade in cigarettes and other tobacco products in the Balkan region that tackles the problem from both citizens' and tobacco consumers' point of view.

The preliminary survey results about the price sensitivity of consumption of illicit tobacco products were complemented by further investigation of excise duties, because differences in price are considered the main generator of illegal tobacco trade. However, for accurate estimating of price elasticity of tobacco demand no data were publicly available.

The study describes the official tobacco industry and regional trade among countries. Since the unofficial economy in Western Balkan countries is related to illegal tobacco trade, we estimated the size of the unofficial economy in the analyzed countries, tax evasion of tobacco taxes, and negative impact of tobacco smuggling on the official sector in Croatia.

All the project results are presented for the region and compared among the analyzed countries in order to frame the regional context of the findings. Croatia is used as a case study for more precise analyses of the tobacco sector.

We hope that policy makers and stakeholders involved in this project will find the results inspiring and beneficial in the fight against illegal trade. The ultimate purpose of this study is to raise awareness about the harmfulness of illegal trade of cigarettes and other tobacco products.

The project team is thankful to stakeholders for their cooperation during the project and appreciates the information and feedback from public institutions and industry. We would like to thank our colleagues at the Institute of Economics, Zagreb for their assistance and we acknowledge the support of PMI IMPACT in funding this study.

Jelena Budak, project leader

# Key findings

- Smoking prevalence in Western Balkan countries, according to the survey data, varies from 25 percent in Slovenia to 43 percent in Bosnia and Herzegovina.

- Industrially manufactured cigarettes are the most preferred tobacco product for 88 percent of smokers, and 15 percent use cut tobacco to roll and stuff their own homemade cigarettes.

- 11 percent of smokers from seven analyzed countries buy tobacco products on the gray market. The share of smokers buying on the gray market ranges from the lowest in Slovenia (3.3 percent) to the highest in Montenegro (27.9 percent). In North Macedonia 3.8 percent of smokers buy illicit tobacco products, in Kosovo 6.3 percent, in Serbia 6.5 percent, in Croatia 7.6 percent, and in Bosnia and Herzegovina 20.3 percent.

- On the regional average, 57 percent of smokers buying on the gray market buy cigarettes and 50 percent buy cut tobacco. Cut tobacco from the gray market is a substitute product for legally sold cigarettes, especially in Croatia and North Macedonia. Cut tobacco in these two countries accounts for 89 percent and 98 percent of the tobacco gray market, respectively.

- Six out of ten smokers who use the gray market buy tobacco products from resellers on the street. Smokers from Croatia and Slovenia prefer buying from friends and acquaintances.

- Buyers on the gray market make daily or weekly purchases because of the good availability of cigarettes and cut tobacco on the gray market. Almost two-thirds of citizens in North Macedonia and Kosovo think it is very easy to purchase cigarettes on the gray market, while half of the respondents in Slovenia and Serbia think it takes a little effort.

- The availability of both cigarettes and cut tobacco is stable compared to two years ago, in the opinion of half of the gray market consumers in the region. Montenegro is an exception, because almost half of the respondents there think availability is getting better. In Croatia, the availability of cigarettes has dropped, but the availability of cut tobacco has increased recently.

- As long as the gray market exists, it will remain the preferred place of purchase for the majority of smokers involved in illicit trade. Two-thirds say they would be motivated to stop buying on the gray market if their living standard improved.

- Although more than half of the citizens are aware that buying on the gray market is illegal, greater punishments would motivate only 5 percent of smokers to stop buying on the gray market. At the same time, more than half of the citizens think that selling tobacco products on the gray market is not sanctioned enough.

- For eight out of ten smokers buying on the gray market, better price is the main reason for buying tobacco products illegally. Tobacco consumption is highly price-sensitive: over half of the respondents in the region would reduce consumption of illegally purchased cigarettes and cut tobacco only if the price on the legal market decreased and became the same as the price of illegally purchased tobacco products on the gray market.

- General public opinion on the price level of legally sold cigarettes and cut tobacco is not in favor of further price increase: more than half of all citizens think that cigarette prices on the legal market are too high, rising up to 86 percent of citizens in Bosnia and Herzegovina who consider cigarettes too expensive. On the other hand, 40 percent of citizens in Slovenia and 25 percent in Croatia think prices are too low.

- About 80 percent of citizens think it is unacceptable to purchase stolen cigarettes, counterfeit brands of cigarettes, and unknown brands of cigarettes without tax stamps, or to avoid taxes or excise duties on tobacco products. Buying tobacco products on the gray market is unacceptable behavior for 69 percent of citizens and this is supported by the opinion shared by every fourth citizen in the region that the gray market of tobacco products is one of the major problems in their country.

- Five in ten citizens in the region consider the state the most responsible for the present condition of the tobacco gray market, followed by the inspectorate (13 percent), police (8 percent), and customs (7 percent). The respondents put the least blame on tobacco producers (farmers) and the tobacco industry.

- Interestingly, buying cut tobacco directly from farmers is acceptable for about half of the citizens in Croatia and Slovenia.

- Purchasing cigarettes of an unknown brand without tax stamps is unacceptable for 80 percent of citizens, as are tax evasion and evasion of excise duties on tobacco products. The most rigid opinion is recorded in Kosovo, where 96 percent of citizens consider these practices unacceptable, opposed to Croatia where 70 percent of citizens share this negative view.

- Two-thirds of the regional population think that the tobacco gray market causes substantial damages to the state budget and considerable damage to society (62 percent of the population).

- As far as other negative consequences to the national economy are concerned, a rather low share of citizens agree that purchase of tobacco on the gray market causes loss of jobs (39 percent).

- Half of the citizens believe that the tobacco gray market increases other forms of crime, and even more (68 percent) see tobacco smuggling as an integral part of organized crime.

- In all countries, attitudes of smokers towards the tobacco gray market are less negative compared to the attitudes of non-smokers. Furthermore, 75 percent of smokers who buy tobacco products on the gray market see nothing wrong in this practice.

- More than half of the citizens think tobacco should be grown as an important crop in their country.

- Western Balkan countries mutually trade mostly in cigarettes, Serbia being the biggest exporter of cigarettes to other countries in the region and Bosnia and Herzegovina the biggest importer. Croatia is the biggest exporter of unmanufactured tobacco to other Western Balkan countries.

- Tobacco trade of the Western Balkan countries shows some positive trends: growth in exports and imports, trade surplus, strengthening of export competitiveness, and relatively high export concentration. The largest part of the tobacco trade of the Western Balkan countries is achieved by Serbia, Croatia, and North Macedonia. These countries are also net exporters of tobacco, while the other analyzed countries (Bosnia and Herzegovina, Kosovo, Montenegro, and Slovenia) are predominantly importers. Kosovo is an absolute net tobacco importer.

- Internationally comparable data on tobacco production for the seven analyzed countries in the region are missing. If the production is not properly recorded in official statistics, a part of the production might remain unrecorded and end up on the gray market.

- The prices of tobacco products in all seven countries are far lower than the EU average. Slovenia as the most expensive tobacco product market is at 68 percent of the EU average and North Macedonia at about 25 percent. This is due to the different taxes and excise duties across the region.

- An increase in excise duties in the past (due to alignment with EU tax policies) resulted in cigarette price increase and the decline of legal markets. After raising excises, the legal cigarette market in Montenegro has halved, while the shrinking of the legal market in Bosnia and Herzegovina was even stronger.

- Taking into account the survey finding that smokers will buy on the gray market as long as it is cheaper, it is reasonable to assume that the shrinking of the legal market after the price increase was not the result of reduced smoking incidence. On the contrary, addicted smokers probably shifted to the gray market, as confirmed by experience reported in the survey.

- The price gap is huge: cigarettes made from illegally bought cut tobacco are ten times cheaper than the same quantity of industrially manufactured cigarettes sold in regular stores in Croatia.

- Estimation of price elasticity of tobacco demand would provide precise quantification of the effect of excise changes on tobacco demand and illicit trade flows. However, this is not possible due to the lack of publicly available data on prices and quantities sold by individual brands.

- In all Western Balkan countries, income derived by tobacco smuggling is estimated at over EUR 200 million annually (0.5 percent of GDP). This share varies, from the lowest in Slovenia (0.01 percent of GDP) and Croatia (0.06 percent of GDP) to the highest in Montenegro (0.52 percent of GDP). In Bosnia and Herzegovina, income from tobacco smuggling represents the prevalent share of total illegal income earned.

- It is estimated that approximately EUR 7.5 billion of taxes is evaded annually in the region, or 4.5 percent of regional GDP. Out of this amount, more than EUR 306.7 million annually is evaded due to tobacco smuggling. The significance of these direct losses to the state budget varies: total tobacco taxes uncollected due to tobacco smuggling represent 0.9 percent of GDP in Bosnia and Herzegovina, 0.6 percent of GDP in Montenegro, 0.2 percent of GDP in Croatia, Serbia, and Kosovo, and 0.1 percent of GDP in Slovenia and North Macedonia.

- Input-output analysis of indirect and induced negative effects of the tobacco gray market on the official sector in Croatia in 2017 showed substantial losses to the economy, state budget, and industry. Tobacco smuggling is estimated to reduce Croatian gross value added by 0.44 percent and employment by 0.48 percent.

- The total effects of reduced volume of government services (due to evasion of tobacco taxes) are significantly higher than the direct effects on tobacco producers and distributors. More than 7,500 jobs could be created in the Croatian economy by eliminating the gray tobacco market.

- One thousand smokers buying tobacco products on the gray market reduce the official gross value added by over EUR 1 million and cause the loss of approximately 50 jobs on an annual level in Croatia.

# 1 Tobacco consumption in Western Balkan countries

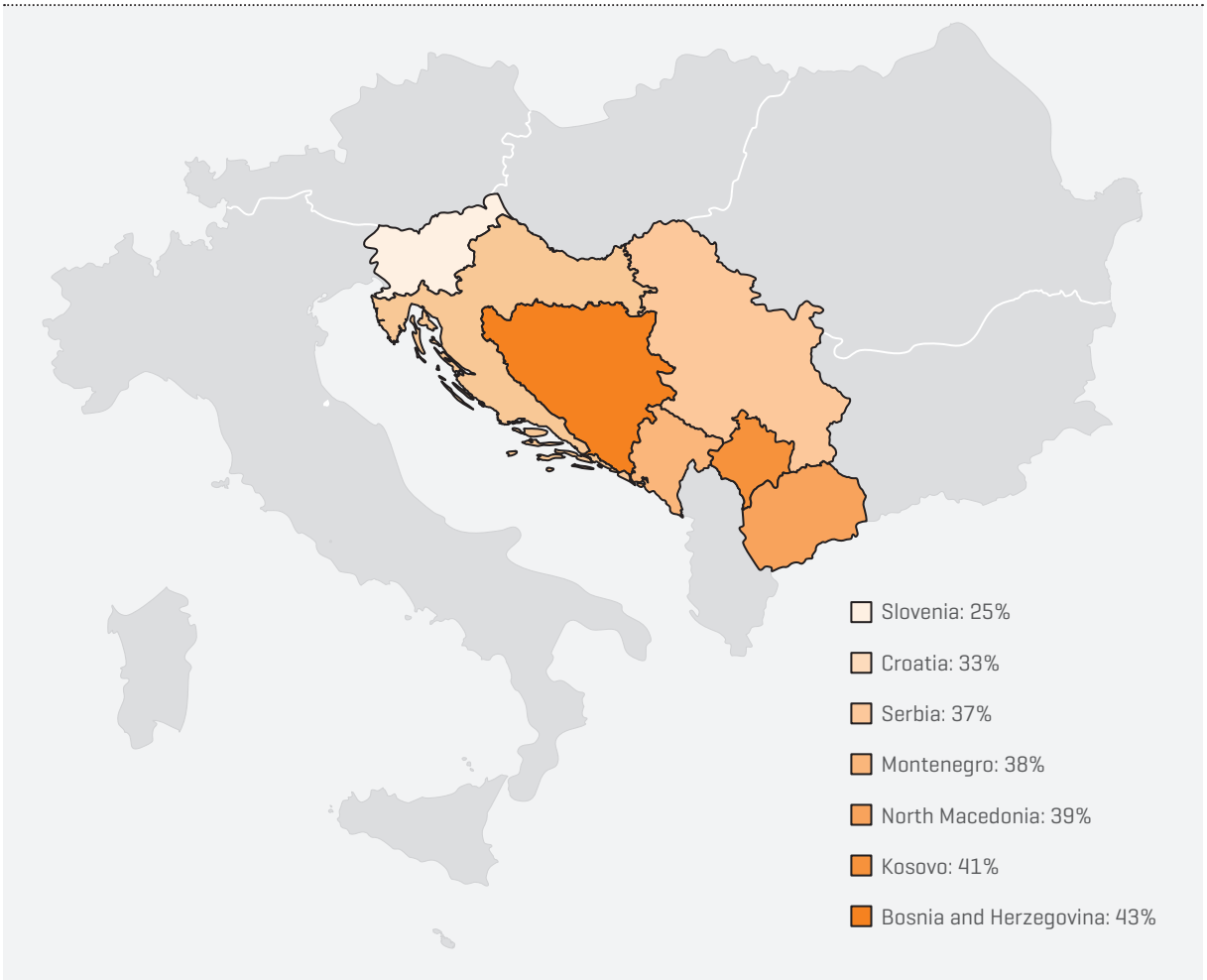
## 1.1 General overview of smoking prevalence in seven countries

Illicit trade, gray market of tobacco products, and tobacco smuggling have been present in the Balkan region for a long time. This analysis of the attitudes of smokers and their practices of buying cigarettes on the gray market, as well as citizens' opinion regarding the illegal trade of cigarettes and other tobacco products, is based on survey results. The survey was conducted in seven Western Balkan countries during 2018 on a sample of 21,000 respondents, or 3,000 respondents per country.

According to the survey results, smoking prevalence in the region is 36 percent, which means that on average every third surveyed individual aged 18+ declared themselves as a smoker. Analysis by country shows that there are **large differences in smoking prevalence** (Map 1.1). The proportion of respondents who say they smoke cigarettes, some other tobacco products, or e-cigarettes is the highest in Bosnia and Herzegovina (43 percent), followed by Kosovo (41 percent), North Macedonia (39 percent), Montenegro (38 percent), and Serbia (37 percent). The lowest proportions of smokers are reported for Slovenia (25 percent) and Croatia (33 percent).

The most popular tobacco product among smokers in the analyzed countries are **industrially manufactured cigarettes, which are used by 88 percent of smokers**. However, 15 percent of smokers stated that they use cut tobacco to roll and stuff their own homemade cigarettes.

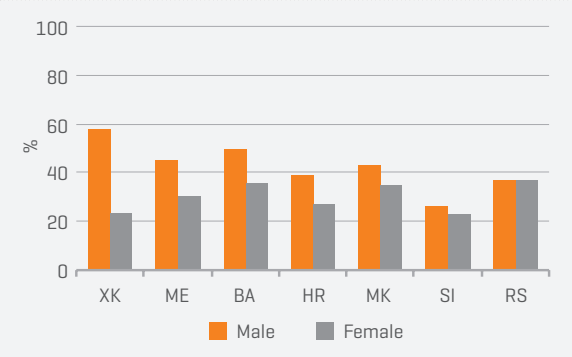
**Map 1.1:** Smoking prevalence by country




Source: Survey data.

Other tobacco products, such as cigars, cigarillos, pipes, etc. are used by less than 5 percent of smokers.

**Figure 1.1:** Smoking prevalence by gender



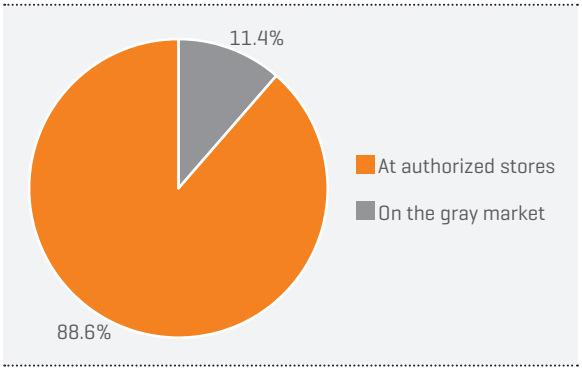

Source: Survey data.

On average, **smoking prevalence is higher among men** (43 percent) than among women (30 percent). Among the seven countries covered by the survey, the proportion of male smokers ranged from 26 percent in Slovenia to 58 percent in Kosovo. The proportion of women ranged from 23 percent in Slovenia to 37 percent in Serbia. The largest gender difference, in percentage point terms, is indicated in Kosovo, where the proportion of male smokers was around 34 percentage points above the proportion of female smokers. Gender differences in excess of 10 percentage points were also observed in Montenegro, Bosnia and Herzegovina, and Croatia. In Serbia, the prevalence of smoking is almost equal among women and men.

## 1.2 Buying habits: Legal or gray market

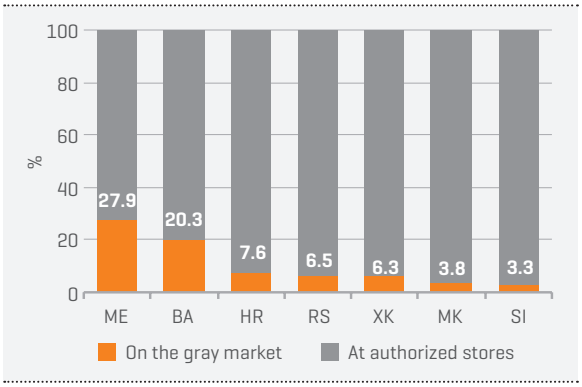
According to the survey results, smokers mainly buy tobacco products in authorized stores. However, the survey results reveal that **11 percent of smokers from the seven analyzed countries usually buy tobacco products on the gray market** (Figure 1.2). The highest shares of smokers who reported purchasing tobacco products on the gray market can be found in Montenegro and Bosnia and Herzegovina, 28 and 20 percent, respectively. On the other hand, the lowest rates of buying tobacco products from illegal sources are seen in Slovenia (3 percent) and North Macedonia (4 percent). In Serbia and Kosovo slightly more than 6 percent of the respondents who smoke buy tobacco products on the gray market, while in Croatia the share is around 8 percent (Figure 1.3).

**Figure 1.2:** Place of buying tobacco products




Source: Survey data.

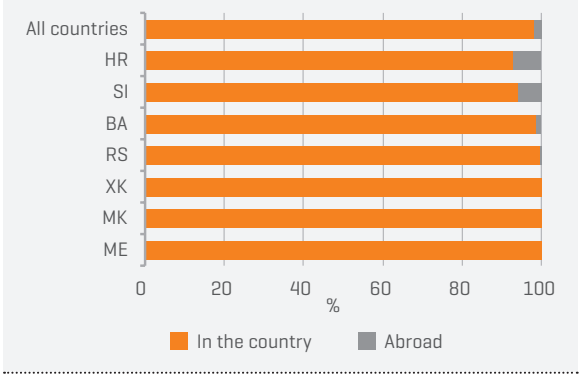
**Figure 1.3:** Place of buying tobacco products, by country




Source: Survey data.

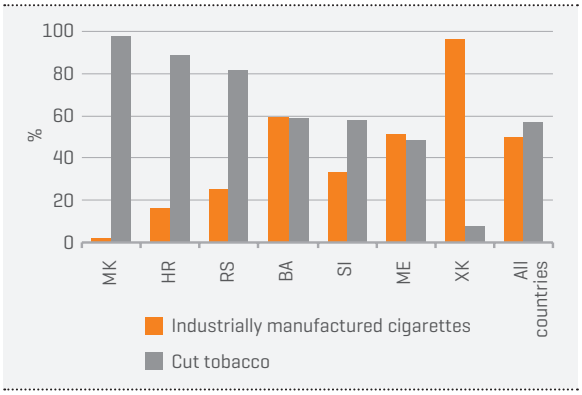
Among the respondents who use tobacco products, less than 2 percent usually buy tobacco products abroad. **Respondents from Croatia and Slovenia are the most likely to purchase tobacco products abroad** – however, even in these countries only between 5 and 8 percent of respondents have bought tobacco products in a foreign country. Respondents from Montenegro and North Macedonia reported that they bought tobacco products only in the country (Figure 1.4).

**Figure 1.4:** Domestic or international place of purchase of tobacco products




Source: Survey data.

**Figure 1.5:** Tobacco products on the gray market

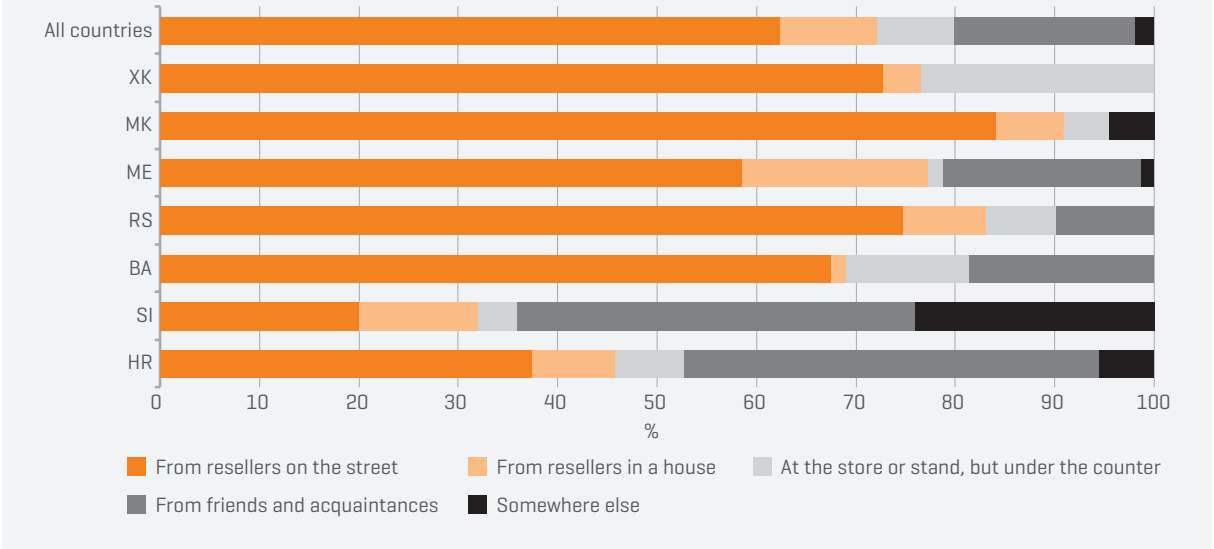



Source: Survey data.

Among the respondents who buy **tobacco products on the gray market**, 57 percent buy cut tobacco which they roll or stuff in cigarettes by themselves, while 50 percent buy industrially manufactured cigarettes. The highest share of smokers who buy cut tobacco on the gray market is reported for North Macedonia and Croatia (98 and 89 percent, respectively). Conversely, in Kosovo 96 percent of the respondents buy industrially manufactured cigarettes on the gray market (Figure 1.5).

Among the respondents who usually buy tobacco products on the gray market, 62 percent buy illicit tobacco products **from resellers on the street**. Additionally, 18 percent of smokers buy illicit tobacco products from friends and acquaintances, almost 10 percent from resellers in a house, and 8 percent at a store or stand, but under the counter. This main point of sale of illicit tobacco products varies across countries. More than 70 percent of illegal buyers in North Macedonia, Serbia, and Kosovo buy from resellers on the street (Figure 1.6).

**Figure 1.6:** Main points of sale of illicit tobacco products




Source: Survey data.

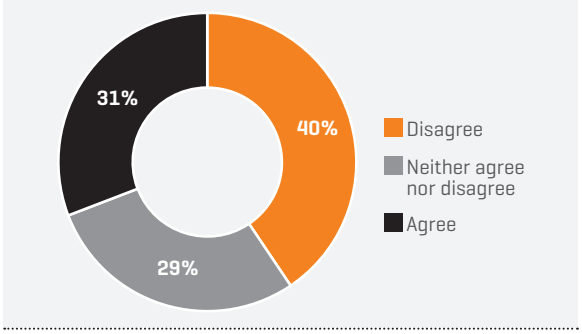
Selling cigarettes on the street in Skopje, April 2018.

Author: Maruška Vizek.

On the other hand, in Slovenia only 20 percent and in Croatia 38 percent of the respondents buy tobacco products from resellers on the street. Respondents in Slovenia and Croatia are the most likely to buy cigarettes from friends and acquaintances.

All surveyed citizens were asked to give their subjective perception of how large a problem the gray market of tobacco products is in their country (Figure 1.7). Although 11 percent of smokers in the analyzed countries confirm that they buy products on the gray market, data about subjective perceptions reveal that in general 40 percent of citizens think that the **gray market of tobacco products is one of the major problems in the country**. The largest share of citizens who consider the gray market of tobacco products one of the major problems in the country is reported in Serbia, where around half of the citizens share this opinion.

**Figure 1.7:** The gray market of tobacco products is one of the major problems in the country, all respondents

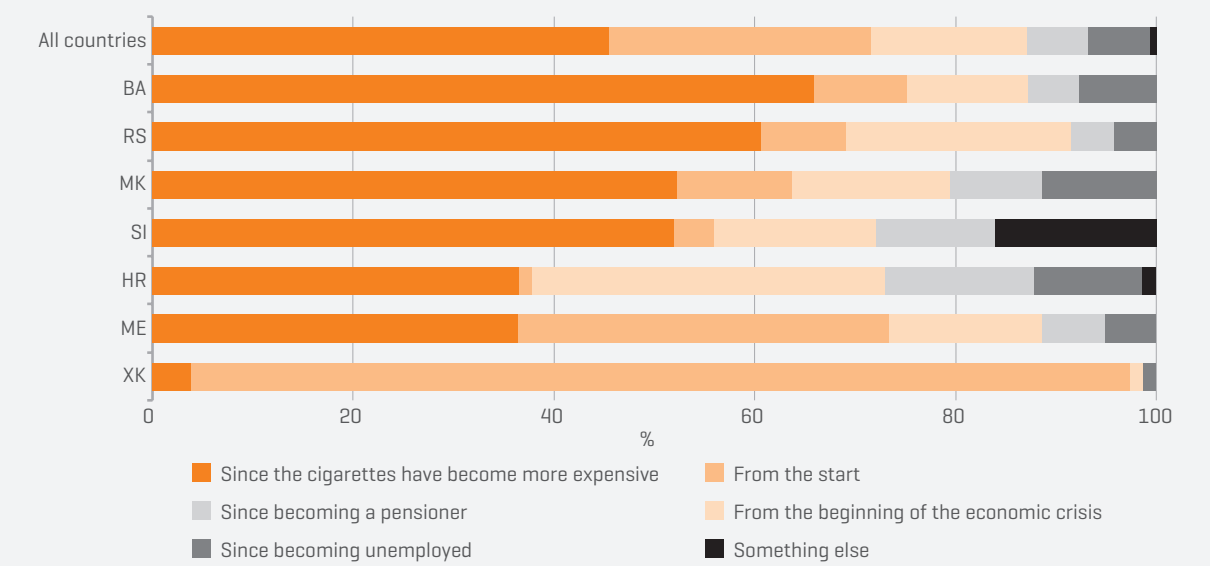



Source: Survey data.

Almost half of the smokers in the analyzed countries state that they have been **buying on the gray market since the cigarettes have become more expensive**, while every fifth states that they have been buying illegal tobacco products since they started smoking. 15 percent of respondents confirmed that they started buying illegal tobacco products from the beginning of the economic crisis. The highest proportion of respondents who started buying illegal tobacco products when the cigarettes became more expensive is reported in Bosnia and Herzegovina (66 percent), followed by Serbia (61 percent), North Macedonia (52 percent), and Slovenia (52 percent). On the other hand, in Kosovo, 94 percent of illegal buyers have been buying tobacco products on the gray market ever since they started smoking. The highest share of respondents who say that they started buying illegal tobacco products from the beginning of the economic crisis is reported in North Macedonia and Croatia (Figure 1.8).

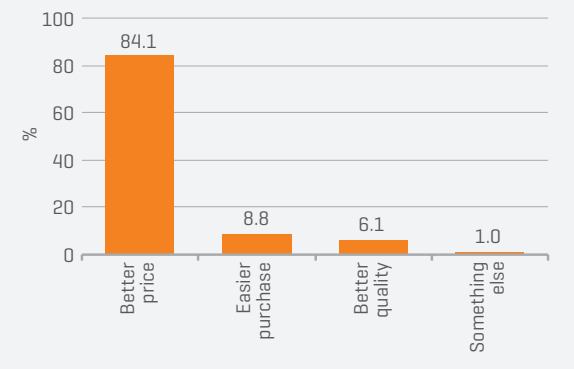
More than 80 percent of all smokers who purchase tobacco products on the gray market state that **better price is the main reason for buying tobacco products on the gray market**. Easy purchase ranks second, followed by better quality (Figure 1.9). In all countries except Kosovo, most of the respondents state that better price is the most important factor influencing their decision to buy tobacco on the gray market. Interestingly, North Macedonian and Slovenian smokers appear to be more influenced by better quality than smokers from other countries, with 25 and 16 percent of the respondents agreeing that better quality is the main reason for buying tobacco on the gray market.

**Figure 1.8:** When smokers started buying tobacco products on the gray market




Source: Survey data.

**Figure 1.9:** The main reason for buying tobacco products on the gray market



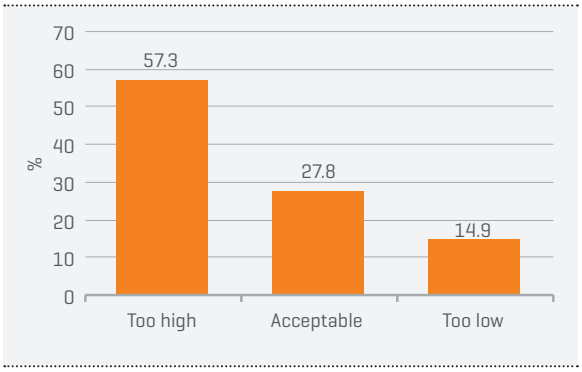

Source: Survey data.

Since better prices are the main motivation for buying on the gray market, we further investigated the respondents' perception of prices of cigarettes and cut tobacco on the legal market.

The analysis revealed that, on average, **more than half of all respondents in all countries think that cigarette prices on the legal market are too high**, while the prices are acceptable for a quarter of the respondents (Figure 1.10).

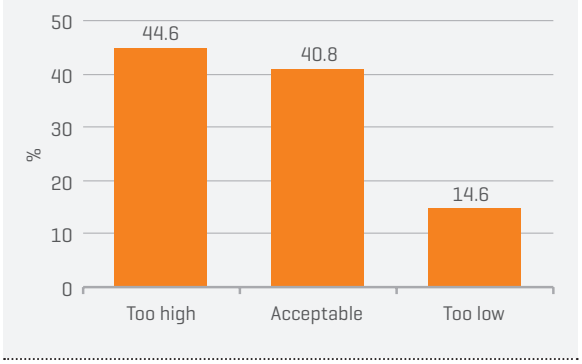
When it comes to cut tobacco prices, the survey results indicate that cut tobacco is more affordable in the analyzed countries. Around 45 percent of all respondents believe that cut tobacco prices on the legal market are too high, while 41 percent think that the cut tobacco prices are acceptable.

**Figure 1.10:** Cigarette prices on legal market




Source: Survey data.

**Figure 1.11:** Cut tobacco prices on legal market



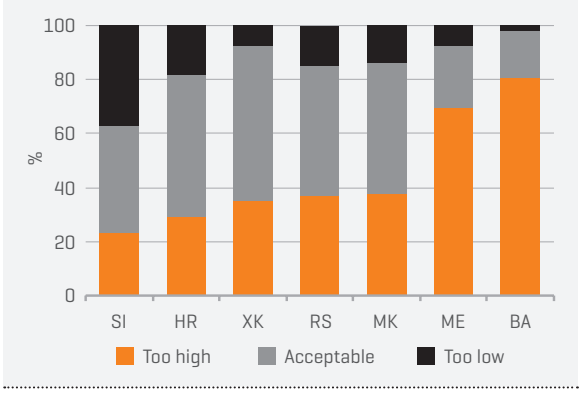

Source: Survey data.

If we compare answers across countries, we can see that **cigarettes on the legal market are too expensive for the great majority of respondents** in Bosnia and Herzegovina, Montenegro, and Serbia (86, 72, and 60 percent, respectively) (Figure 1.12). Conversely, 40 percent of Slovenian respondents believe that prices are too low. Almost a quarter of the respondents in Croatia share this opinion. It should be noted, however, that this reflects the opinion of the smoker and non-smoker population. At the same time, the prices of cigarettes are the most acceptable for respondents in Kosovo.

**Figure 1.12:** Cigarette prices on legal market


Source: Survey data.

**Figure 1.13:** Cut tobacco prices on legal market




Source: Survey data.

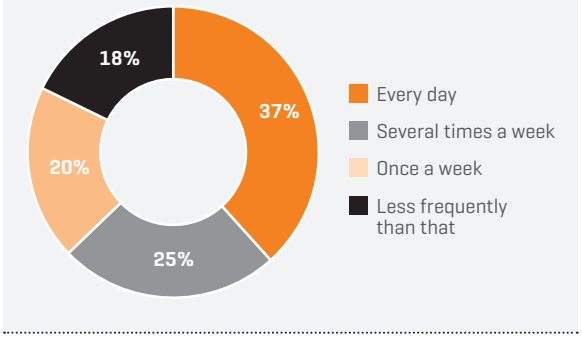
When it comes to cut tobacco prices on the legal market, the results of the survey generally suggest that cut tobacco prices are more acceptable than the prices of cigarettes (Figure 1.13). Cut tobacco is too expensive for the great majority of respondents in Bosnia and Herzegovina and Montenegro, while in other countries this proportion is lower than 40 percent. On the other hand, cut tobacco prices are acceptable for more than half of the respondents in Kosovo and Croatia. Slovenia stands out with the highest share of respondents who think that cut tobacco prices are too low, 37 percent of them.

## 1.3 Availability of tobacco products on the gray market

In this part of the study, we analyze the respondents' subjective perceptions about the availability of cigarettes and cut tobacco on the gray market.

Almost **7 out of 10 respondents who buy tobacco products on the gray market in the analyzed countries make this purchase several times a week or even every day** (Figure 1.14). However, there are large differences in the frequency of buying on the gray market among the countries. In Kosovo and Montenegro, smokers buy tobacco products on the gray market more often than in the other countries. The majority of smokers in Bosnia and Herzegovina, Serbia, Croatia, and North Macedonia buy on the gray market once a week or less frequently.

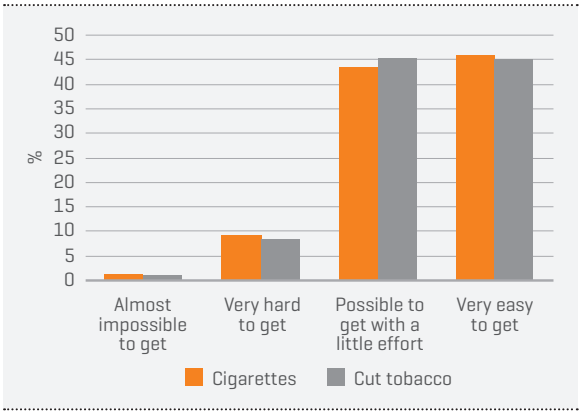
**Figure 1.14:** Frequency of buying tobacco products on the gray market




Source: Survey data.

The majority of respondents in the analyzed countries believe that **cigarettes and cut tobacco on the gray market are relatively easy to get**. When it comes to the purchase of cigarettes on the gray market, 46 percent of all respondents think that cigarettes are very easy to get, while 44 percent think that it is possible to get them with a little effort. Similarly, 45 percent of all respondents think that it is very easy to get cut tobacco on the gray market, and an additional 45 percent of total respondents think that it is possible to get it with a little effort (Figure 1.15).

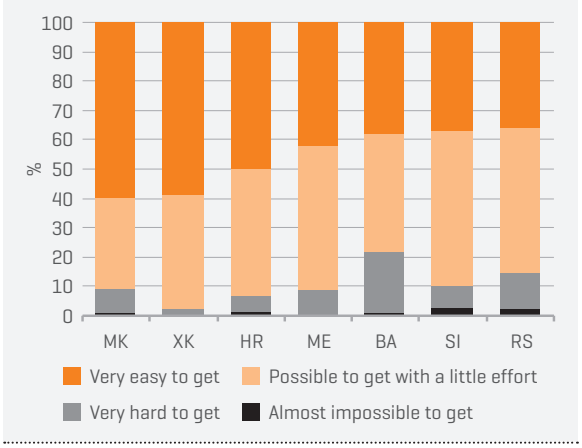
**Figure 1.15:** Availability of tobacco products on the gray market




Source: Survey data.

The **availability of illegally purchased cigarettes** and cut tobacco varies across countries (Figure 1.16). Almost two-thirds of all respondents in North Macedonia and Kosovo think that it is very easy to purchase cigarettes on the gray market. In other countries, this share is below 50 percent. Slovenia and Serbia stand out with the highest share of respondents who think that it is possible to get cigarettes on the gray market with a little effort, 53 and 49 percent, respectively.

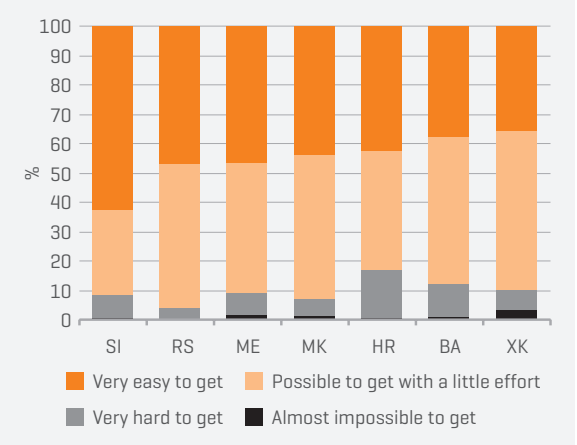
**Figure 1.16:** Availability of cigarettes on the gray market




Source: Survey data.

When it comes to the **availability of cut tobacco on the gray market**, Slovenia stands out with the highest share of respondents who think that cut tobacco is very easily accessible, as much as 62 percent of all respondents (Figure 1.17).

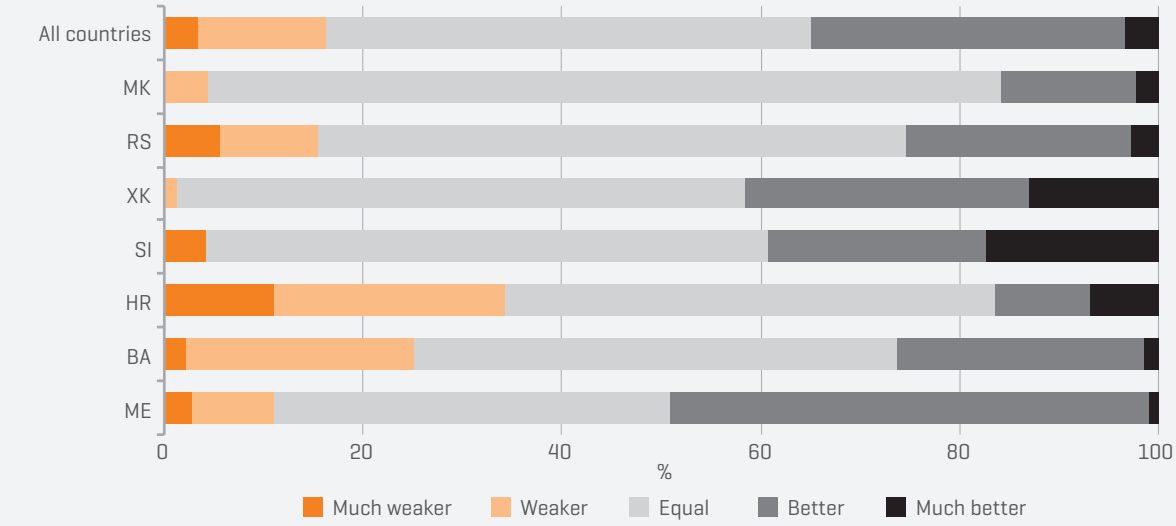
**Figure 1.17:** Availability of cut tobacco on the gray market




Source: Survey data.

The survey results reveal that, on average, almost half of the respondents who buy tobacco products on the

**Figure 1.18:** The availability of cigarettes on the gray market compared to two years ago



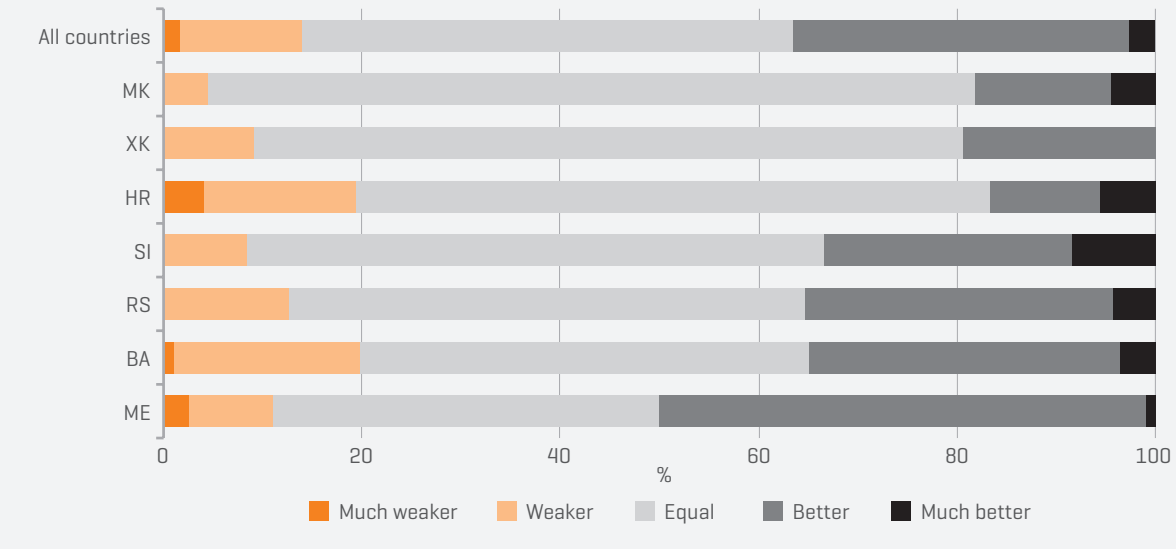

Source: Survey data.

gray market believe that **the availability of cigarettes is the same as two years ago, while for a third of the respondents the availability is better**. Only 13 percent think the availability of illegal cigarettes is lower than two years ago.

Comparisons of cigarette availability on the gray market today and two years ago differ across countries. The proportion of those who think that the availability of cigarettes is the same as two years ago ranges from 40 percent in Montenegro to 80 percent in North Macedonia. Interestingly, better availability of illegal cigarettes is reported the most in Montenegro (Figure 1.18).

Almost half of those who buy illegal cut tobacco think that **the availability of illegal cut tobacco is the same as two years ago, while a third of them think that the availability is better**. Only 12 percent of respondents think that

**Figure 1.19:** The availability of cut tobacco on the gray market compared to two years ago




Source: Survey data.

availability is lower than two years ago. These proportions vary considerably among the analyzed countries. The highest proportion of those who think that the availability of illegal cut tobacco is the same as two years ago is reported in North Macedonia (77 percent) and Kosovo (71 percent), while the lowest proportion is in Montenegro (39 percent). Montenegro is the only country where almost half of the respondents believe the availability of cut tobacco on the gray market is better today than it was two years ago (Figure 1.19).

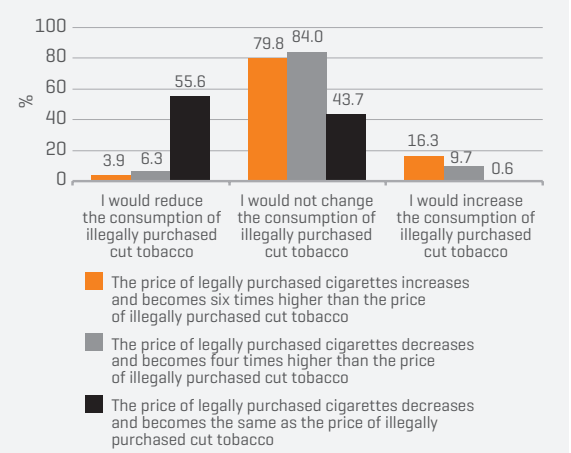
## 1.4 Price sensitivity of illicit tobacco products consumption

In implementing the survey, we assumed that the smokers who purchase tobacco products on the gray market know their consumption patterns and are familiar with the current price ratio. Therefore, we asked them how their illicit consumption would change under different price scenarios. First, we asked about their cut tobacco consumption on the gray market in the case of a legal cigarette price change, assuming that **cut tobacco on the gray market is a substitute for legally sold cigarettes**. The first scenario represents an increase in the price ratio, i.e., the price of legally purchased cigarettes increases and becomes six times higher than the price of illegally purchased cut tobacco. The second scenario is a decrease in the price ratio: the price of legally purchased cigarettes decreases and becomes four times higher than the price of illegally purchased cut tobacco. Finally, the third scenario represents a price ratio of one (zero price difference) – the price of legally purchased cigarettes decreases and becomes the same as the price of illegally purchased cut tobacco. The initial assumption is that the current price of legally purchased cigarettes is five times higher than illegally purchased cut tobacco.

In general, 56 percent of respondents in all of the countries say that they would **reduce the consumption of illegally purchased cut tobacco** only in the case of the third scenario – **if the price of legally purchased cigarettes decreased and became the same as the price of illegally purchased cut tobacco**. These results are presented in more detail (by country) in Figure 1.21.

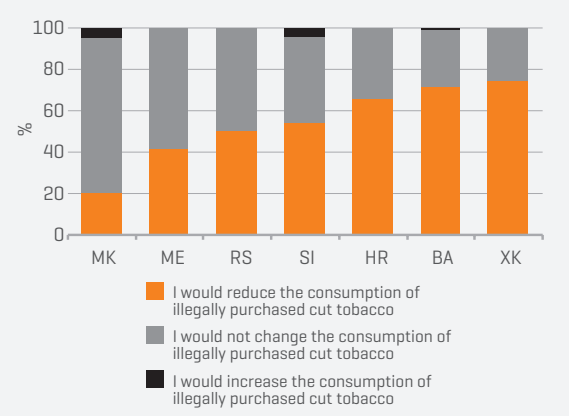
In the other two situations, i.e., if the price of legally purchased cigarettes became six or four times higher than the price of illegal cut tobacco, more than 80 percent of respondents would not change the consumption of illegally purchased cut tobacco (Figure 1.20). Notably, in the case of the first scenario, North Macedonia stands out with more than 9 in 10 respondents who would not change their behavior. Only 16 percent of illicit cut tobacco users are likely to increase their consumption of illicit tobacco in the case of the first scenario, and 10 percent in the case of the second scenario.

**Figure 1.20:** Change in the consumption of illegally purchased cut tobacco – three scenarios




Source: Survey data.

**Figure 1.21:** The third scenario – the price of legally purchased cigarettes decreases and becomes the same as the price of illegally purchased cut tobacco, by country



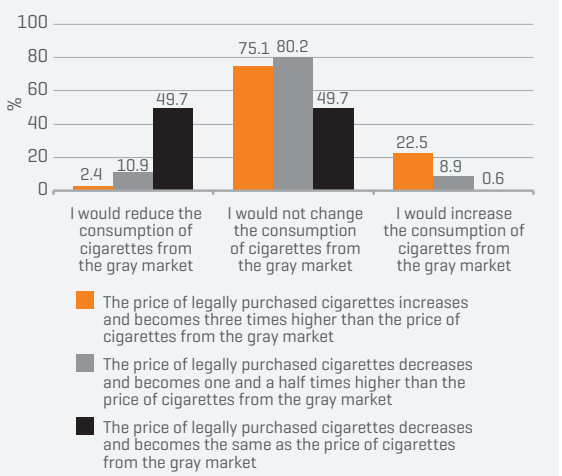

Source: Survey data.

Illicit cigarette smokers were then asked to indicate how their illicit consumption would change under the different price scenarios. Unlike the previous question, here the assumption is that the current price of legally purchased cigarettes is two times higher than the price of cigarettes on the gray market. The first scenario represents an increase in the price ratio, i.e., the price of legally purchased cigarettes increases and becomes three times higher than the price of cigarettes on the gray market. The second scenario is a decrease in the price ratio: the price of legally purchased cigarettes decreases and becomes one and a half times higher than the price of cigarettes on the gray market. Finally, the third scenario represents a price ratio of one (zero price difference) – the price of legally purchased cigarettes decreases and becomes the same as the price of cigarettes on the gray market.

In general, almost **half of the respondents in all of the countries say that they would reduce the consumption of illegally purchased cigarettes only** in the case of the third scenario – **if the price of legally purchased cigarettes decreased and became the same as the price of illegally purchased cigarettes**. These results are presented in more detail (by country) in Figure 1.23. However, the same proportion of illicit cigarette users would not change their consumption of cigarettes from the gray market. In only three countries, the majority of respondents claim that they would reduce their consumption of illegally purchased cigarettes, with the highest rates in Bosnia and Herzegovina, followed by Croatia and Slovenia. Still, there is a significant proportion of those who would not change their consumer behavior even if the prices were equal (44 percent in all of the countries). This proportion varies across the countries, ranging from 28 percent in Bosnia and Herzegovina to 75 percent in North Macedonia.

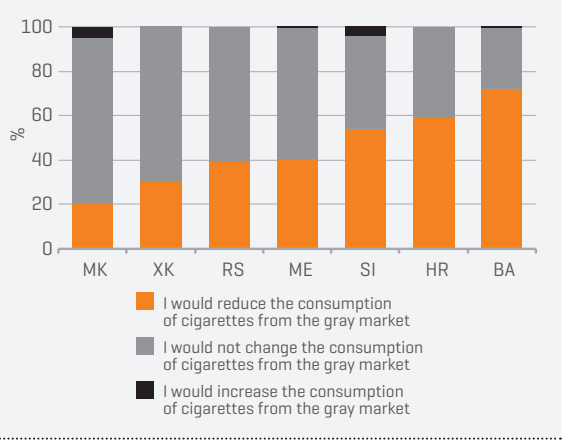
Further, if the price of legally purchased cigarettes became three or one and a half times higher than the price of illegal cigarettes, most respondents would not change the consumption of illegally purchased cigarettes (75 percent). Notably, in the case of the first scenario, Montenegro stands out with 95 percent of those who would not change their behavior, followed by North Macedonia and Serbia, while the lowest proportion is seen in Kosovo. Interestingly, on average 23 percent of illicit cigarette users in the analyzed countries are likely to increase their consumption of illicit cigarettes in the case of the first scenario, and 9 percent in the case of the second scenario (Figure 1.22).

**Figure 1.22:** Change in the consumption of illegally purchased cigarettes – three scenarios




Source: Survey data.

**Figure 1.23:** The third scenario – the price of legally purchased cigarettes decreases and becomes the same as the price of cigarettes on the gray market, by country




Source: Survey data.

## 1.5 Exiting the gray market

Within the survey, buyers of tobacco products on the gray market were asked what they would do in the hypothetical situation in which they could no longer buy tobacco products at their usual place of purchase. The results reveal that 79 percent of those who buy products on the gray market would look for a new similar place of purchase, which means that **as long as the gray market exists, it will remain the preferred place of purchase**

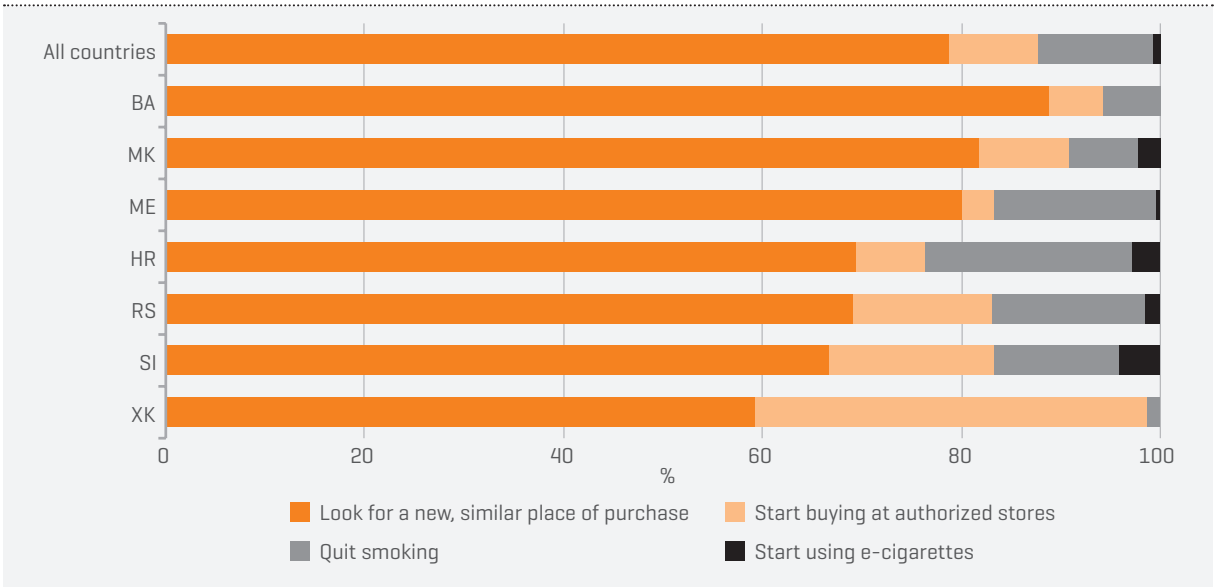
**for the majority of smokers involved in illicit trade**. It is interesting to note that smokers in the analyzed countries are on average more likely to stop smoking than to shift to a legal market of tobacco products if their preferred place of purchase of illegal tobacco products no longer existed. 12 percent of respondents in the analyzed countries would quit smoking, while 9 percent would start buying at authorized stores.

In all countries, finding a new similar place of purchase is the most common answer (Figure 1.24). Eight out of ten respondents in Bosnia and Herzegovina, North Macedonia, and Montenegro would remain loyal to illicit tobacco products. Almost every fourth respondent in Kosovo claims that they would start buying at authorized stores, while at the other extreme, this answer is mentioned the least in Montenegro and Bosnia and Herzegovina. Slightly over one-fifth of those who buy illegal tobacco products in Croatia think that if they could not buy tobacco products at their usual place of purchase, they would quit smoking. In contrast, this answer is given the least in Kosovo, Bosnia and Herzegovina, and North Macedonia.

In the survey, we also investigated what would motivate smokers to stop buying on the gray market. Slightly above two-thirds of respondents say that **the main motivation factor to stop buying on the gray market would be an improvement in their standard of living**. This share ranges from 78 percent of respondents in Montenegro to 21 percent in Slovenia. The second most given reason was **quitting smoking** (34 percent). People in Kosovo and Slovenia are the most likely to say that quitting smoking would be motivation to stop buying on the gray market. **Health concerns** would be motivation for almost a fifth of respondents. Respondents are the most likely to identify health concerns as an important motivation factor to stop buying on the gray market in North Macedonia. Around 5 percent of respondents hold the view that **greater punishments for purchases** on the gray market would motivate them to stop buying illegal tobacco products, while 4 percent say they would be motivated to stop buying on the gray market if their usual supplier stopped working (Figure 1.25).

There are substantial country-level differences in the proportion of respondents who think greater punishments for purchases on the gray market would motivate them to stop buying illegal tobacco products. Kosovo stands out with the highest proportion of respondents thinking so (30.3 percent), followed by North Macedonia (11 percent), Serbia (11 percent), and Slovenia (8 percent). Conversely, in Croatia, Bosnia and Herzegovina, and Montenegro less than 2 percent of respondents say that they would stop buying on the gray market if punishments were greater. The proportion of respondents who think a decrease in cigarette prices on the legal market would motivate them

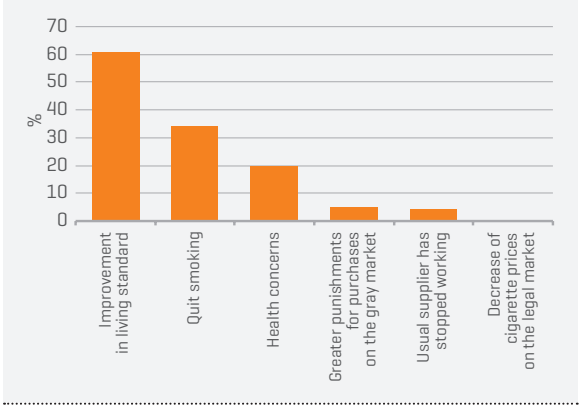
**Figure 1.24:** Preferred alternatives for smokers who could no longer buy illicit tobacco products at their usual point of sale




Source: Survey data.


to stop buying on the gray market is negligible in all of the countries, ranging from 0.1 percent in Montenegro to 0.7 percent in Bosnia and Herzegovina.

**Figure 1.25:** Motivation for exiting the gray market of tobacco products




Note: Multiple answers.

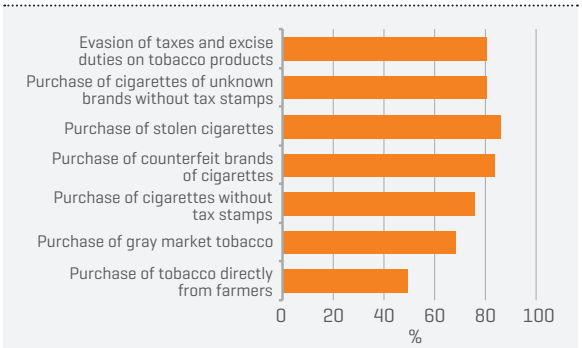
Source: Survey data.

## 1.6 [Un]acceptability of certain practices in illicit tobacco trade

In order to measure public opinion on the acceptability or unacceptability of various behaviors related to illegal purchase of tobacco products, all respondents were asked to rate various practices in illicit tobacco trade on a scale of 1 to 5, where 1 means completely unacceptable and 5 means completely acceptable. The rated practices were: purchase of tobacco directly from farmers; purchase of gray market tobacco; purchase of cigarettes without tax stamps; purchase of counterfeit brands of cigarettes; purchase of stolen cigarettes; purchase of cigarettes of unknown brands without tax stamps; tax evasion and evasion of excise duties on tobacco products. Summary results for all countries are presented in Figure 1.26 and reveal that citizens have an overall negative opinion on illicit tobacco trade. The great majority of respondents in all countries find that various behaviors related to illegal purchase of tobacco products are not acceptable.

The majority of citizens, over 80 percent, think that it is **unacceptable to purchase stolen cigarettes, counterfeit brands of cigarettes, and unknown brands of cigarettes without tax stamps, or to avoid taxes or excise duties on tobacco products**. Citizens also have a negative opinion, although to a lesser extent, towards purchasing cigarettes without tax stamps (76 percent). According to the opinion of 69 percent of citizens, purchasing tobacco products on the gray market is not acceptable. Slightly less than half of the respondents think that purchasing tobacco directly from farmers is unacceptable behavior (Figure 1.26).

**Figure 1.26:** Unacceptability of certain practices in illicit tobacco trade in the seven countries



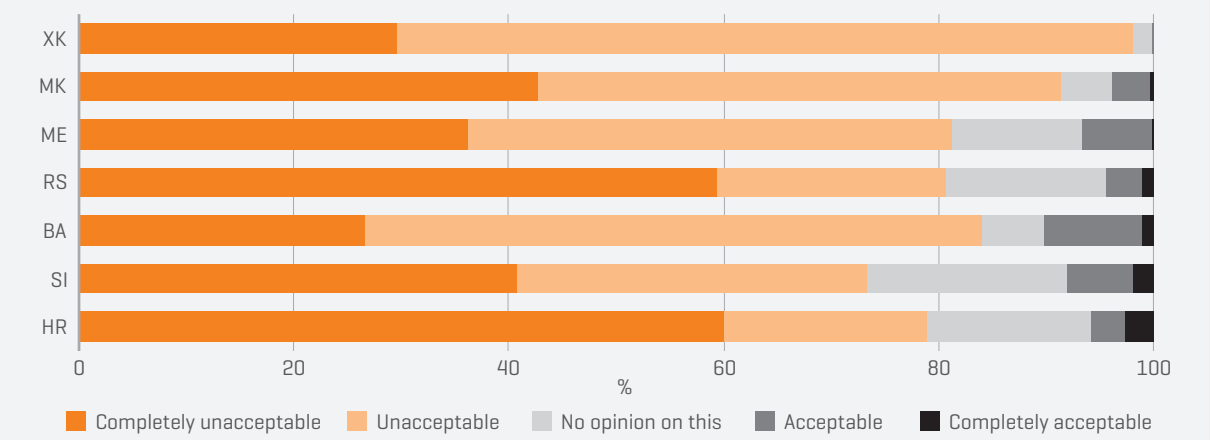

Source: Survey data.

As could be expected, non-smokers are more rigorous in assessing the acceptability of practices in illegal tobacco trade than smokers. This applies to all analyzed practices. When only the categories of smokers are observed, it is interesting to note that **smokers who buy cigarettes on the illegal market do not think that buying tobacco products directly from farmers, purchasing on the gray tobacco market, and purchasing cigarettes without tax stamps are unacceptable behaviors**.

The next part of the report provides a more detailed analysis by country for each of the rated behaviors.

**Purchasing counterfeit brands of cigarettes** is unacceptable and completely unacceptable for the great majority of respondents in all countries (Figure 1.27). Kosovo and North Macedonia stand out with the highest proportion of respondents giving this response, 98 percent and 92 percent, respectively. In other countries, this proportion ranges from 73 percent in Slovenia to 84 percent in Bosnia and Herzegovina.

**Figure 1.27:** Purchase of counterfeit brands of cigarettes

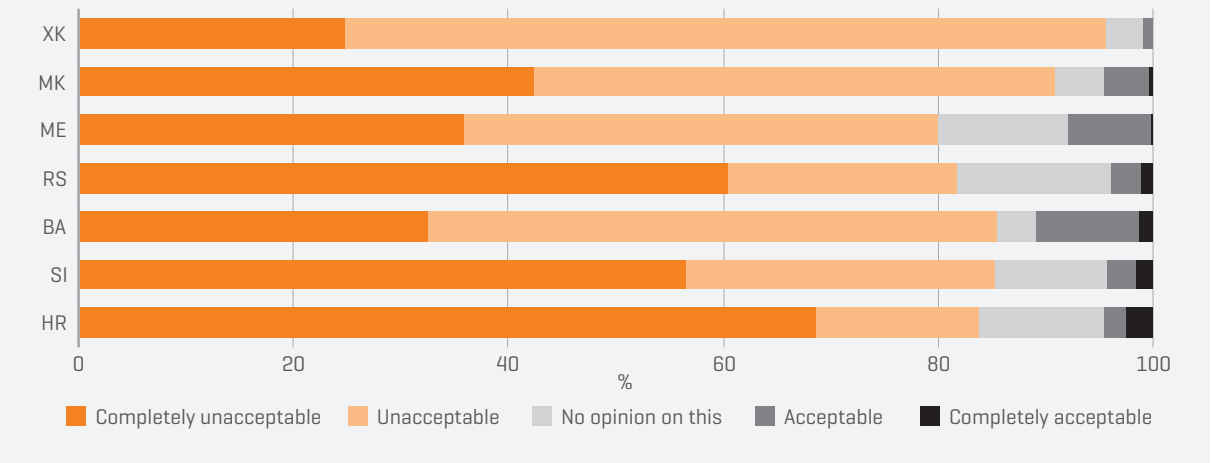



Source: Survey data.

Data analysis by smoking status of respondent shows that the proportion of non-smokers who find this type of behavior unacceptable and completely unacceptable varies from 76 percent in Slovenia to 98 percent in Kosovo. The proportion of smokers who consider this type of behavior unacceptable or completely unacceptable varies from 67 percent in Slovenia to 98 percent in North Macedonia. Interestingly, purchasing counterfeit brands of cigarettes is also unacceptable and completely unacceptable for the great majority of illicit smokers in all countries. Kosovo stands out here with 99 percent of illicit tobacco users who find this way of purchasing tobacco products unacceptable.

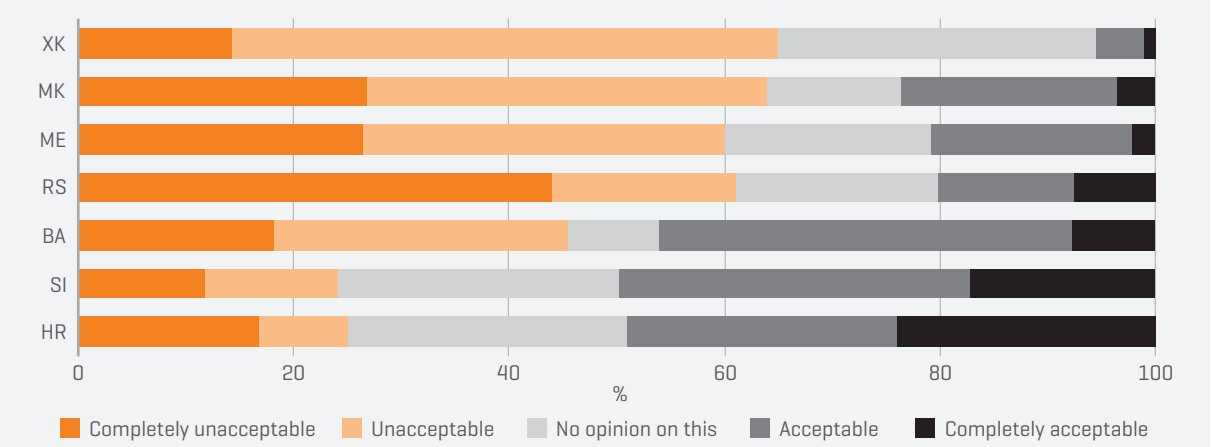
The overwhelming majority of all respondents in seven countries (86 percent) consider **purchase of stolen cigarettes** to be unacceptable and completely unacceptable, while 5 percent find this type of behavior acceptable (Figure 1.28). If we look at the results by country, purchase of stolen cigarettes is unacceptable or completely unacceptable for the great majority of all respondents. The highest proportion of respondents who think so is seen in Kosovo (96 percent), followed by North Macedonia (91 percent) and Bosnia and Herzegovina (86 percent).

**Figure 1.28:** Purchase of stolen cigarettes




Source: Survey data.


**Figure 1.29:** Purchase of tobacco directly from farmers



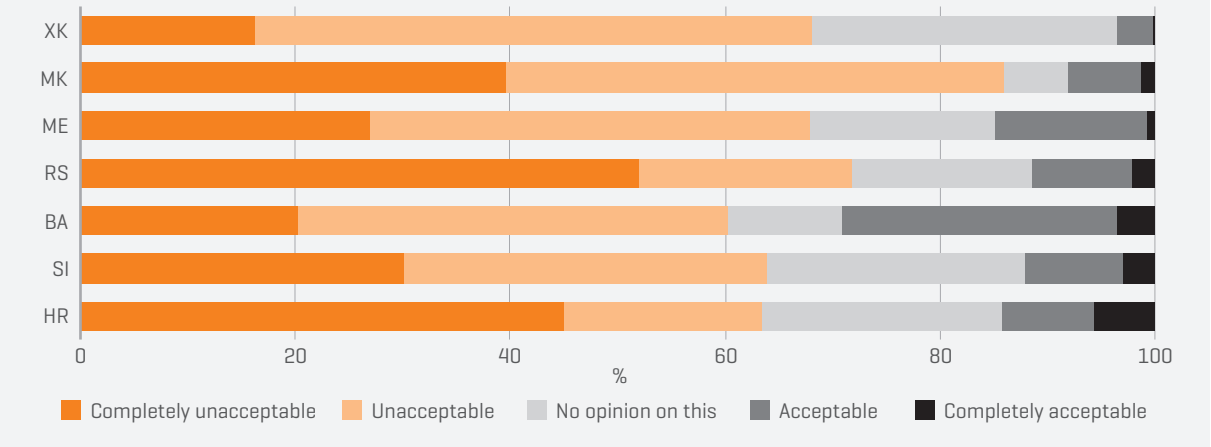

Source: Survey data.

Data analysis by smoking status of respondents shows that at least 80 percent of respondents who declared themselves as non-smokers consider purchase of stolen cigarettes to be unacceptable or completely unacceptable in all countries. The highest proportion of non-smokers who think that purchase of stolen cigarettes is unacceptable and completely unacceptable is seen in Kosovo (97 percent). Kosovo also stands out with 89 percent of smokers who think that purchasing stolen cigarettes is unacceptable or completely unacceptable. The lowest proportion of smokers who find this type of behavior unacceptable and completely unacceptable is seen in Montenegro (68 percent).

As noted previously, less than half of all respondents agree and agree completely that **purchase of tobacco directly from farmers** is unacceptable, while a third of them find this type of behavior acceptable (Figure 1.29). Respondents from Kosovo are the most likely to agree that purchasing tobacco directly from farmers is unacceptable, followed by respondents from North Macedonia, Serbia, and Montenegro. Conversely, Slovenia and Croatia stand out with a higher proportion of respondents who find this type of behavior acceptable, 50 and 49 percent, respectively.

Data analysis by smoking status of respondents shows that in four of seven countries, more than two-thirds of non-smokers consider this behavior unacceptable. The

**Figure 1.30:** Purchase of tobacco products on the gray market




Source: Survey data.

highest proportions among the respondents agreeing so are found in Montenegro and North Macedonia. When smokers of illegally purchased tobacco products are asked whether they find purchasing tobacco directly from farmers to be acceptable, as much as 87 percent say yes. This proportion ranges from over seven in ten respondents in Kosovo, Slovenia, and Serbia to more than nine in ten respondents in Bosnia and Herzegovina.

The majority of all respondents (68 percent) also consider **purchase of gray market tobacco** to be unacceptable, while only less than 4 percent consider it to be acceptable and completely acceptable (Figure 1.30). In all countries, more than two-thirds of respondents consider purchasing gray market tobacco to be unacceptable. North Macedonia has the highest proportion of respondents who think so, almost nine in ten respondents.

Data analysis by smoking status of respondents shows that in all countries, purchasing gray market tobacco is unacceptable for the majority of respondents who declared themselves as non-smokers. The proportion of non-smokers who find this type of behavior unacceptable and completely unacceptable varies from 66 percent in Kosovo to 89 percent in North Macedonia.

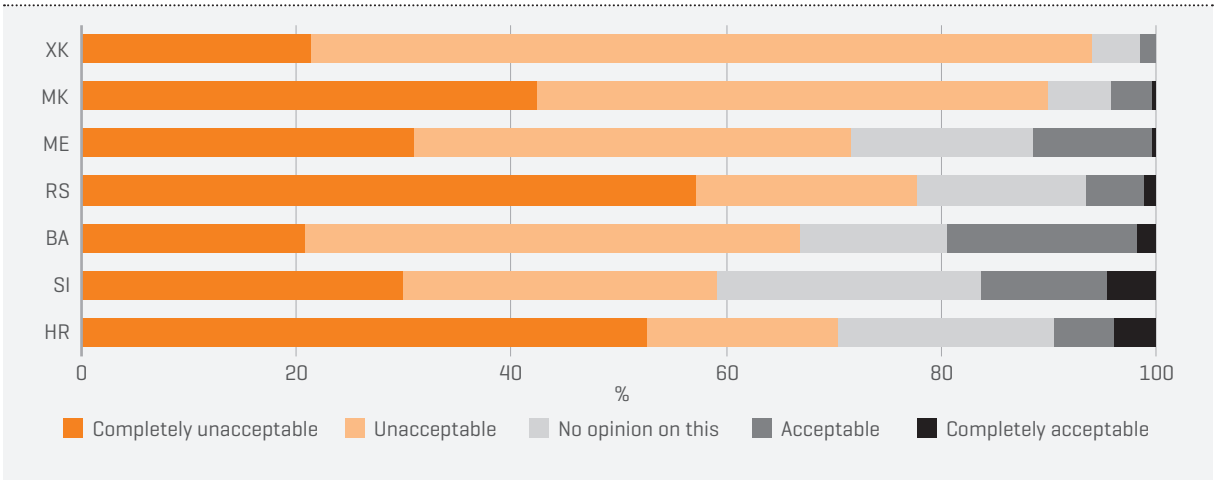
Differences in attitudes across countries are more pronounced when observing the smoking population. Purchasing tobacco products on the gray market is unacceptable for 81 percent of North Macedonian respondents who declared themselves as smokers, followed by 72 percent of smokers in Kosovo and 60 percent in Serbia. The lowest proportions of smokers who find this type of behavior unacceptable and completely unacceptable are seen in Bosnia and Herzegovina (46 percent).


Selling cut tobacco and empty cigarette tubes at an open market, Skopje, April 2018.

Author: Maruška Vizek.

The vast majority of all respondents (94 percent) consider **purchase of cigarettes without tax stamps** to be unacceptable, while only slightly above 1 percent of respondents consider it to be acceptable. **Purchasing**

**Figure 1.31:** Purchase of cigarettes without tax stamps




Source: Survey data.


**cigarettes without tax stamps is unacceptable for the majority of respondents in all countries.** The proportion of respondents who consider this type of behavior to be unacceptable ranges from 86 percent in North Macedonia to 60 percent in Bosnia and Herzegovina (Figure 1.31).

Data analysis by smoking status of respondents shows that the proportion of non-smokers who find this type of behavior unacceptable varies from 61 percent in Slovenia to 97 percent in Kosovo. If we look at the smokers' answers to this question by country, the proportion of those who consider purchasing cigarettes without tax stamps to be unacceptable is slightly lower. The highest proportion of those giving this answer is seen in Kosovo (89 percent).

Eight in ten of all respondents consider **purchase of cigarettes of unknown brands without tax stamps** to be unacceptable, while only less than 8 percent of respondents consider it to be acceptable (Figure 1.32). Purchase of cigarettes of unknown brands without tax stamps is an unacceptable practice for the majority of respondents in all countries. The share of respondents who find this practice unacceptable ranges from 97 percent in Kosovo to 61 percent in Slovenia.

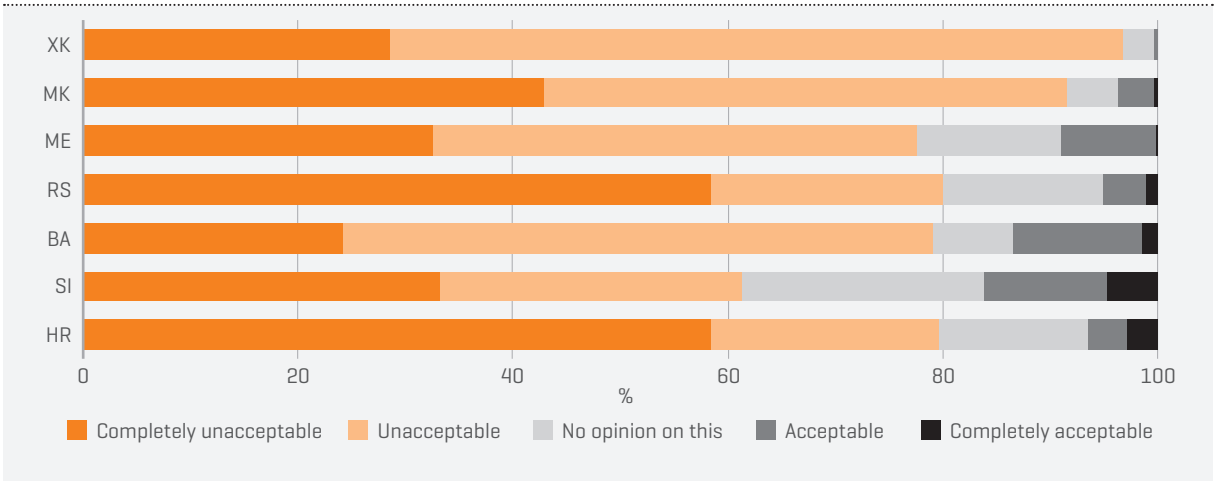
Data analysis by smoking status of respondents shows that the proportion of smokers who find this behavior unacceptable ranges from 95 percent in Kosovo to 59 percent in Slovenia.

The opinion of the majority of respondents indicates that **tax evasion and evasion of excise duties on tobacco products** are unacceptable in all countries (Figure 1.33). Kosovo and North Macedonia stand out with the highest share of all respondents who think so, 96 percent and 91 percent, respectively. In other countries, this share ranges from 70 percent in Croatia to 80 percent in Serbia.


Smuggled cigarettes with no tax stamps in Bosnia and Herzegovina.

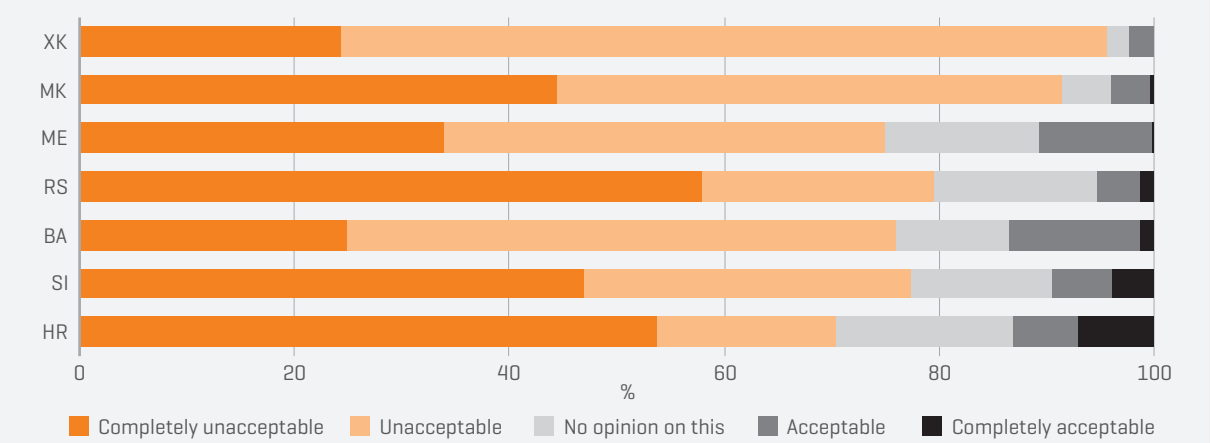
Source: Grude Online.

**Figure 1.32:** Purchase of cigarettes of unknown brands without tax stamps




Source: Survey data.

**Figure 1.33:** Tax evasion and evasion of excise duties on tobacco products




Source: Survey data.

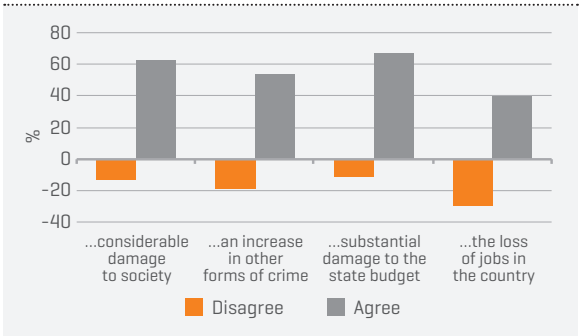
Although tax evasion and evasion of excise duties on tobacco products are unacceptable for the majority of respondents who declared themselves as smokers in all of the countries, there are some country-level differences. The share of smokers who find tax evasion on tobacco products unacceptable ranges from 92 percent in Kosovo to 55 percent in Croatia. When it comes to the same opinion of non-smokers, the highest shares are seen in Kosovo and North Macedonia, 98 percent and 93 percent, respectively. In other countries, this share ranges from 78 percent in Croatia to 87 percent in Bosnia and Herzegovina.

## 1.7 Perceptions of negative impact of tobacco gray market

This part of the report presents the survey results reflecting citizens' attitudes towards the consequences of illegal tobacco trade on the economic situation in the country, as well as its effects on individuals and society. The survey results confirm that the majority of citizens recognize the negative effects of the tobacco gray market (Figure 1.34).

The results show that 67 percent of all respondents from seven countries agree that the **tobacco gray market causes substantial damages to the state budget**. Overall, the results in the seven countries show that 61 percent of smokers and 70 percent of non-smokers agree with the statement that the gray market of tobacco products causes substantial damage to the state budget (Figure 1.35). As could be expected, much more smokers who buy tobacco products on the legal market agree with this statement than those who purchase tobacco products on the gray tobacco market.

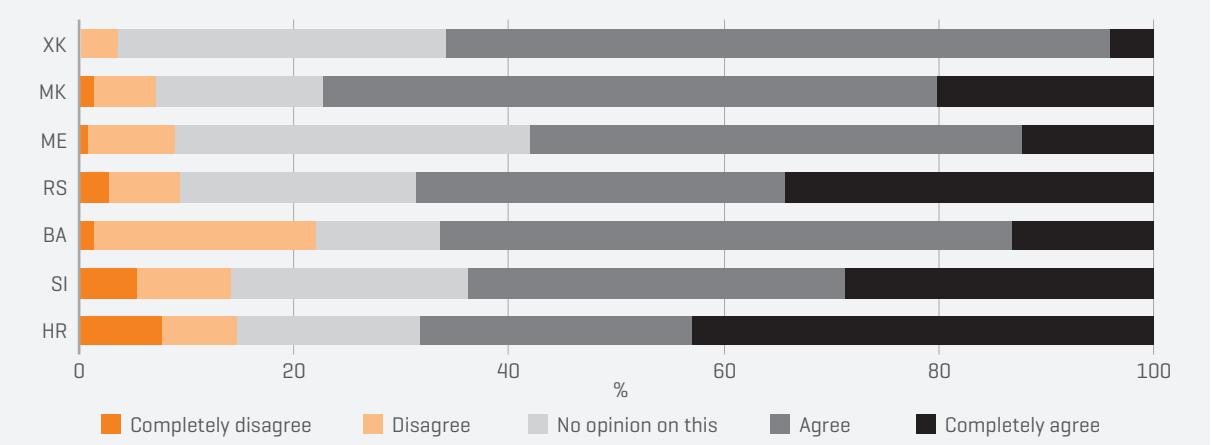
**Figure 1.34:** Citizens' perceptions regarding tobacco gray market's impact on society and economy




Source: Survey data.

In the opinion of the majority of respondents, the gray market of tobacco products causes substantial damage to the state budget in all countries. Notably, North Macedonia, Serbia, and Croatia stand out with the highest share of respondents agreeing or completely agreeing with this statement, 77 percent, 69 percent, and 68 percent, respectively. In other countries, this share ranges from 58 percent in Montenegro to 66 percent in Bosnia and Herzegovina.


**Figure 1.35:** Gray market of tobacco products causes substantial damage to the state budget

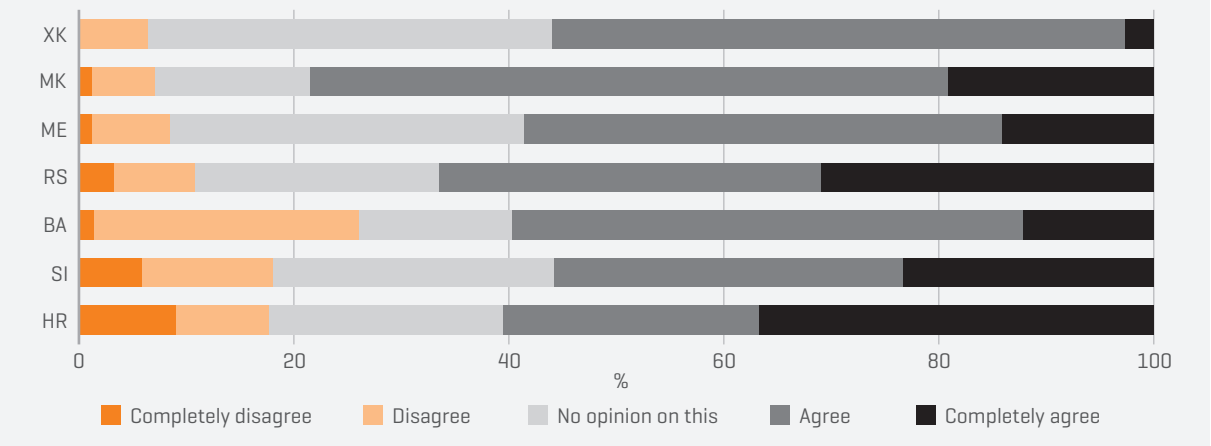



Source: Survey data.

Analysis of respondents' attitudes according to their smoking status (smokers vs. non-smokers) shows that, in all countries, more than 6 in 10 of all non-smokers think that the gray market of tobacco products causes substantial damage to the state budget. The share of non-smokers who agree with this statement ranges from 77 percent in North Macedonia to 66 percent in Slovenia. The highest share of non-smokers who do not think that the gray market of tobacco products causes substantial damage to the state budget is found in Bosnia and Herzegovina (19 percent of respondents). This is quite interesting considering that Bosnia and Herzegovina is among the countries with larger smoking prevalence and larger share of smokers buying tobacco products on the gray market compared to the other analyzed countries. When it comes to smokers' attitudes, the share of those agreeing that the gray market of tobacco products causes substantial damage to the state budget ranges from 78 percent in North Macedonia to 45 percent in Montenegro.

In the opinion of the majority of respondents, the **gray market of tobacco products causes considerable damage to society**. About 62 percent of all respondents in seven countries think that the tobacco gray market causes considerable damage to society (Figure 1.36). 56 percent of smokers and 66 percent of non-smokers agree and agree completely with this statement. More than half of the smokers of legally purchased tobacco products

**Figure 1.36:** Gray market of tobacco products causes considerable damage to society




Source: Survey data.

agree with this statement, while only around a quarter of smokers who purchase tobacco products on the gray market agree. 43 percent of smokers of illegally purchased tobacco products disagree and completely disagree that the gray market of tobacco products causes considerable damage to society.

In all countries, the majority of respondents who declared themselves as non-smokers agree or completely agree with this statement. This proportion ranges from more than five in ten respondents in Kosovo to less than eight in ten respondents in North Macedonia. When it comes to the attitudes of the smoking population, country-level differences are even more pronounced. The highest proportions of those who agree that the gray market of tobacco products causes considerable damage to society are found in North Macedonia (78 percent). On the other hand, less than half of the smokers polled in Slovenia, Montenegro, and Croatia think the same.

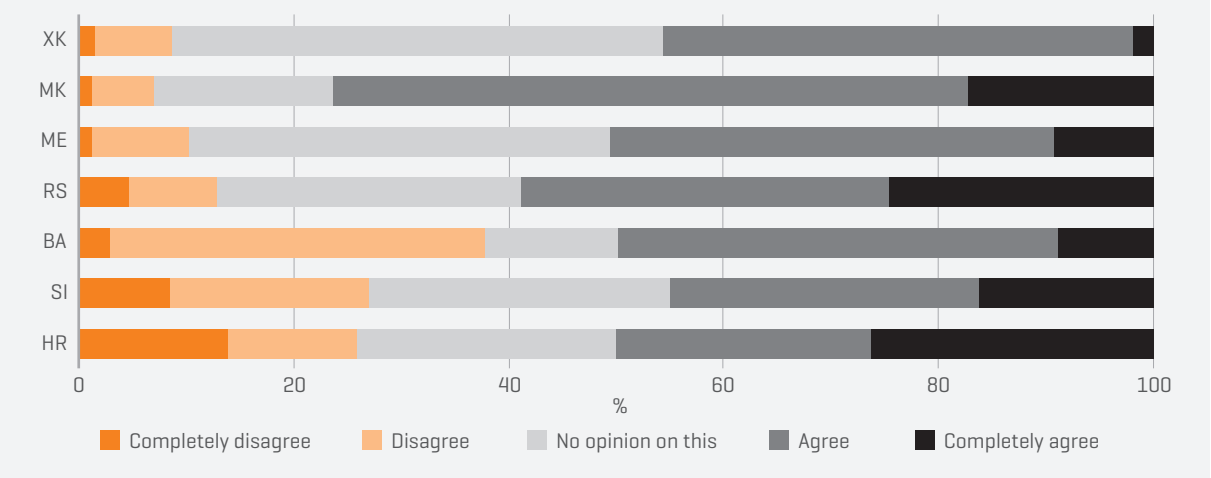
Every second respondent recognizes that there is a link between the tobacco gray market and other forms of crime and believes that the **gray market of tobacco products causes an increase in other forms of crime**. 50 percent of smokers and 56 percent of non-smokers agree with this statement (Figure 1.37). 54 percent of smokers of legally purchased tobacco products agree and completely agree that the gray market of tobacco products causes an increase in other forms of crime. The share of smokers buying tobacco products on the gray market who agree with this statement is much lower. Thus, 23 percent of smokers of illegally purchased tobacco products agree that the gray market of tobacco products causes an increase in other forms of crime, while 48 percent disagree.

Comparing the results country-by-country, the share of respondents who believe there is a link between the tobacco gray market and other forms of crime ranges between 73 percent in North Macedonia and 45 percent in Slovenia. Interestingly, as much as 38 percent of respondents in Bosnia and Herzegovina disagree with this statement.

Country-level differences are also present when it comes to the opinions of smokers. At least seven out of ten smokers in North Macedonia think that the gray market of tobacco products causes an increase in other forms of crime, followed by 53 percent of smokers in Kosovo and 51 percent of smokers in Serbia. At the same time, this statement is supported by less than half of the smokers in Bosnia and Herzegovina (44 percent), Croatia (43 percent), Montenegro (41 percent), and Slovenia (36 percent). Interestingly, in Bosnia and Herzegovina, Croatia, and Slovenia there are significant percentages of smokers who disagree and disagree completely with this statement, 42 percent, 35 percent, and 34 percent, respectively.

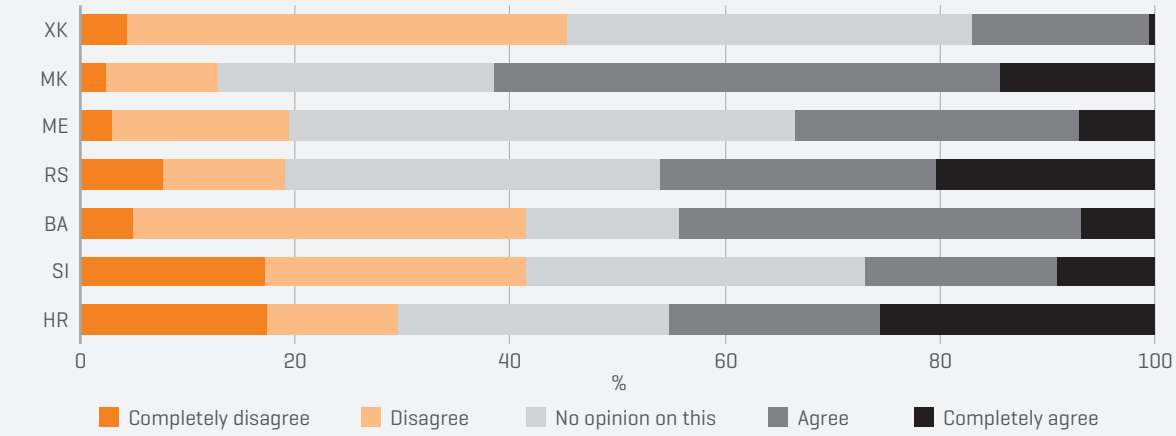
Less than half of the citizens, 39 percent of them, think that **purchase of gray market tobacco products causes loss of jobs in the country**, while around a third of the respondents disagree (Figure 1.38). 37 percent

**Figure 1.37:** Gray market of tobacco products causes an increase in other forms of crime




Source: Survey data.

**Figure 1.38:** Purchase of gray market tobacco products causes loss of jobs in the country



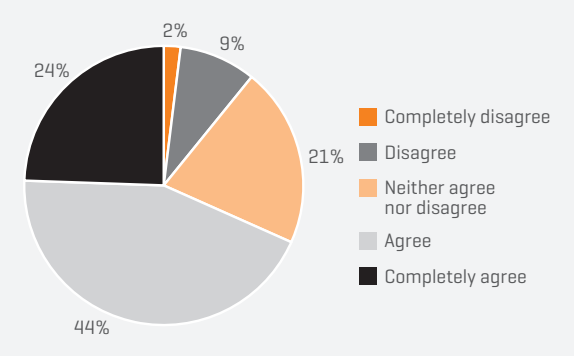

Source: Survey data.

of smokers and 41 percent of non-smokers agree and agree completely with this statement. Almost 40 percent of smokers who purchase tobacco products on the legal market and 12 percent of those who purchase tobacco products on the gray market agree that purchase of gray market tobacco products causes loss of jobs. More than half of the smokers who purchase tobacco products on the gray market disagree with this statement.

With the exception of North Macedonia, where more than 6 in 10 respondents agree or completely agree with this statement, the proportion of respondents sharing this opinion is significantly lower in all other countries. The share of respondents who believe that the gray market of tobacco products causes loss of jobs ranges from 17 percent in Kosovo to 46 percent in Serbia. The share of respondents who disagree with the statement ranges from 13 percent in North Macedonia to 45 percent in Kosovo.

The majority of respondents in seven countries (68 percent) have a negative perception of tobacco product smuggling and believe that **tobacco smuggling is an integral part of organized crime**. 64 percent of smokers and 71 percent of non-smokers think that cigarette and tobacco smuggling is part of organized crime. 67 percent of smokers who purchase tobacco products on the legal market and 37 percent of smokers who buy tobacco products on the gray market think that cigarette and tobacco smuggling is part of organized crime. A third of smokers who buy tobacco products on the gray market do not have an opinion on this statement.

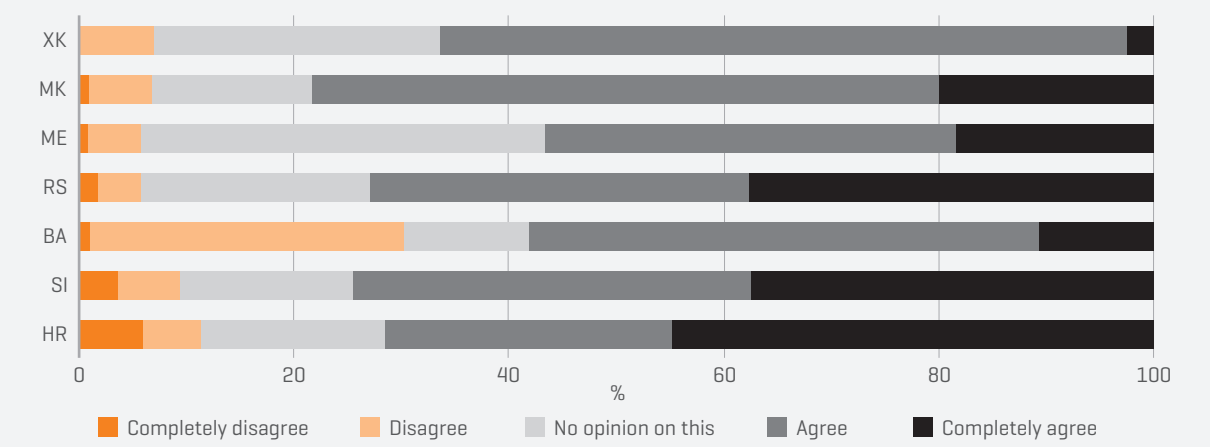
**Figure 1.39:** Respondents' views of cigarette and tobacco smuggling as part of organized crime




Source: Survey data.

The majority of respondents in all countries believe that cigarette and tobacco smuggling is part of organized crime (Figure 1.39). North Macedonia and Slovenia stand out here with 78 percent and 75 percent of all respondents who agree or completely agree with this statement. In other countries, this proportion ranges from 57 percent in Montenegro to 73 percent in Serbia (Figure 1.40).

**Figure 1.40:** Cigarette and tobacco smuggling is part of organized crime




Source: Survey data.

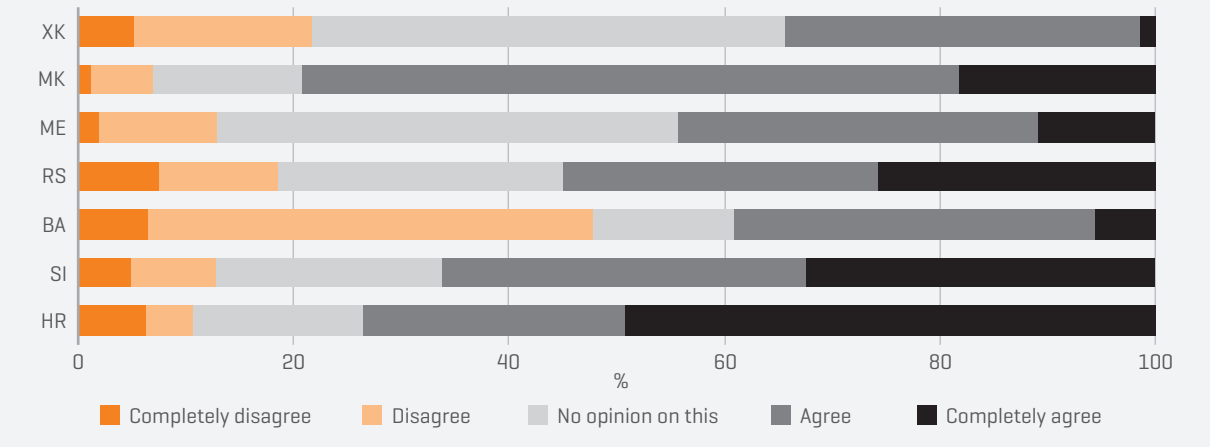
With the exception of Montenegro, where less than half of the smokers agree with this statement, the proportion of those supporting this opinion is in the majority in all other countries, ranging from 54 percent in Bosnia and Herzegovina to 78 percent in North Macedonia. The share of non-smokers who consider tobacco smuggling a part of organized crime ranges from 79 percent in North Macedonia to 61 percent in Kosovo.

More than half of all respondents think that **purchase of gray market tobacco products is a criminal offense**. 49 percent of smokers and 60 percent of non-smokers agree or agree completely with this statement (Figure 1.41).

53 percent of smokers who purchase tobacco products on the legal market and 19 percent of smokers who purchase tobacco products on the gray market agree that purchase of gray market tobacco products is a criminal offense. 58 percent of smokers buying tobacco products on the gray market disagree and disagree completely with this statement.

There are clear country-level differences in this regard. Thus, the majority of respondents in North Macedonia (79 percent), Croatia (74 percent), Slovenia (66 percent), and Serbia (55 percent) agree and completely agree with this statement. Conversely, in Montenegro, Bosnia and

**Figure 1.41:** Purchase of gray market tobacco products is a criminal offense




Source: Survey data.


Herzegovina, and Kosovo less than half of all respondents give this response, 44 percent, 39 percent, and 34 percent, respectively. It was particularly interesting to see whether smokers who buy tobacco products on the gray market consider their action a criminal offense. The survey results reveal that, with the exception of Croatia, where around two-thirds of smokers who purchase tobacco products on the gray market agree, the proportion of respondents giving this response is in the minority in all other countries, and ranges from 8 percent in Montenegro to 39 percent in North Macedonia. Bosnia and Herzegovina stands out with the highest percentage of respondents disagreeing with this claim, as high as 82 percent.

47 percent of all respondents think that **buyers of gray market tobacco products are exposed to possible arrest**. 44 percent of smokers and 49 percent of non-smokers think so (Figure 1.42). Only 20 percent of smokers who purchase tobacco products on the gray market think that they are exposed to possible arrest, while 54 percent of them think that there are no such consequences for purchasing tobacco products on the gray market.

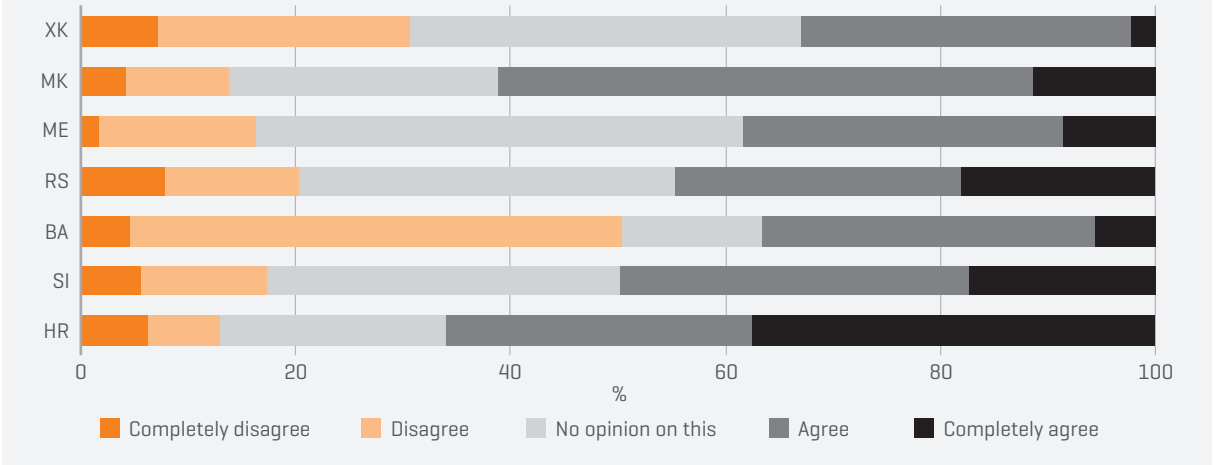
With the exception of Croatia and North Macedonia, where around two-thirds of all respondents agree or completely agree with the statement that buyers of gray market tobacco products are exposed to possible arrest, the proportion of respondents giving this response is below 50 percent in all other countries.

When considering only smokers, with the exception of Croatia and North Macedonia, where 66 percent and 62 percent of those polled agree and completely agree with this statement, the proportion of smokers giving this answer in other countries ranges from 31 percent in Bosnia and Herzegovina to 46 percent in Slovenia. At the same time, Bosnia and Herzegovina stands out with the highest percentage of respondents who disagree with this statement, 56 percent.

With the exception of Croatia, where more than 6 in 10 illicit smokers say that they agree or completely agree with the statement that buyers of gray market tobacco products are exposed to possible arrest, in all other countries the proportion of respondents giving this response is significantly lower. Thus, in Montenegro 8 percent of those polled agree with this statement, while in other countries this proportion ranges from 12 percent in Bosnia and Herzegovina to 46 percent in Slovenia. At the same time, Bosnia and Herzegovina stands out with the highest proportion of illicit smokers who disagree or completely disagree with this statement.

Slightly more than half of the respondents from the seven analyzed countries disagree with the statement that **there is nothing wrong with purchasing gray market tobacco products**. Expectedly, this share is larger among non-smokers than smokers (Figure 1.43). 46 percent of smokers and 59 percent of non-smokers disagree with

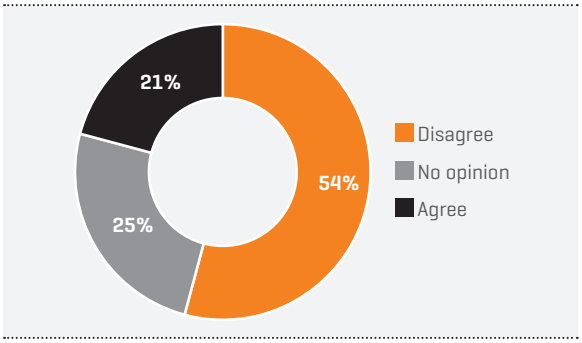
**Figure 1.42:** Buyers of gray market tobacco products are exposed to possible arrest




Source: Survey data.

this statement. Analysis by type of smoker shows that as much as three-quarters of smokers who buy tobacco products on the gray market see nothing wrong in their action.

**Figure 1.43:** There is nothing wrong with purchasing gray market tobacco products



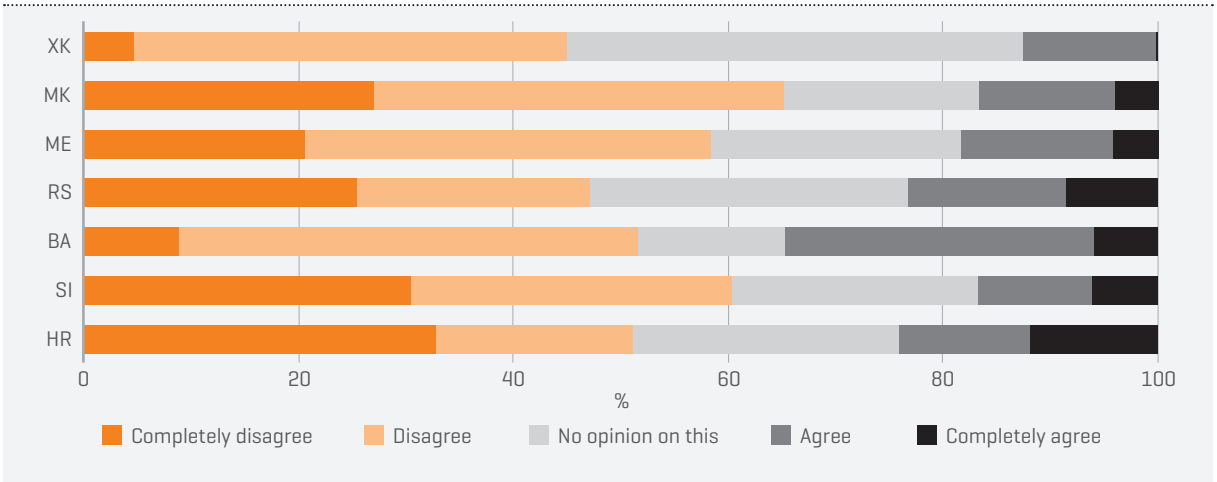

Source: Survey data.

Analysis by country shows that North Macedonia and Slovenia stand out with the highest proportion of those who think that purchasing gray market tobacco products is wrong behavior (65 percent and 60 percent, respectively). At the same time, respondents from Kosovo are more likely to have no opinion about the statement (42 percent). Conversely, Bosnia and Herzegovina has the highest proportion of respondents who see nothing wrong in purchasing tobacco products on the gray market (35 percent) (Figure 1.44).

More than half of all respondents think that **selling cigarettes on the gray market is not sanctioned enough**. 50 percent of smokers and 61 percent of non-smokers think that selling cigarettes on the gray market is not sanctioned enough. 53 percent of non-illicit smokers and 25 percent of illicit smokers agree and agree completely with the statement. 40 percent of illicit smokers do not have an opinion on this statement (Figure 1.45).

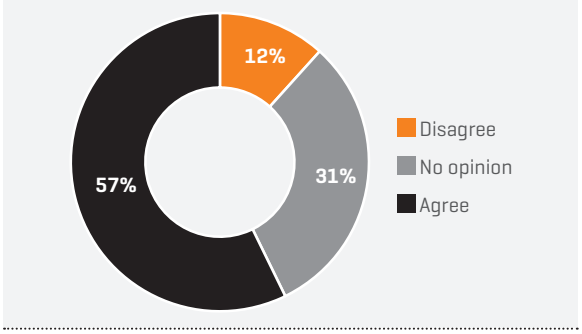
In all except two countries, the majority of citizens think that selling cigarettes on the gray market is not sanctioned enough. The highest proportions of those supporting this opinion are found in North Macedonia and Bosnia and Herzegovina. If only respondents who declared themselves as smokers are considered, North Macedonia stands out with the highest proportion of respondents who support this statement, followed by Bosnia and Herzegovina and Serbia (Figure 1.46).

**Figure 1.44:** There is nothing wrong with purchasing gray market tobacco products




Source: Survey data.

**Figure 1.45:** Selling cigarettes on the gray market is not sanctioned enough



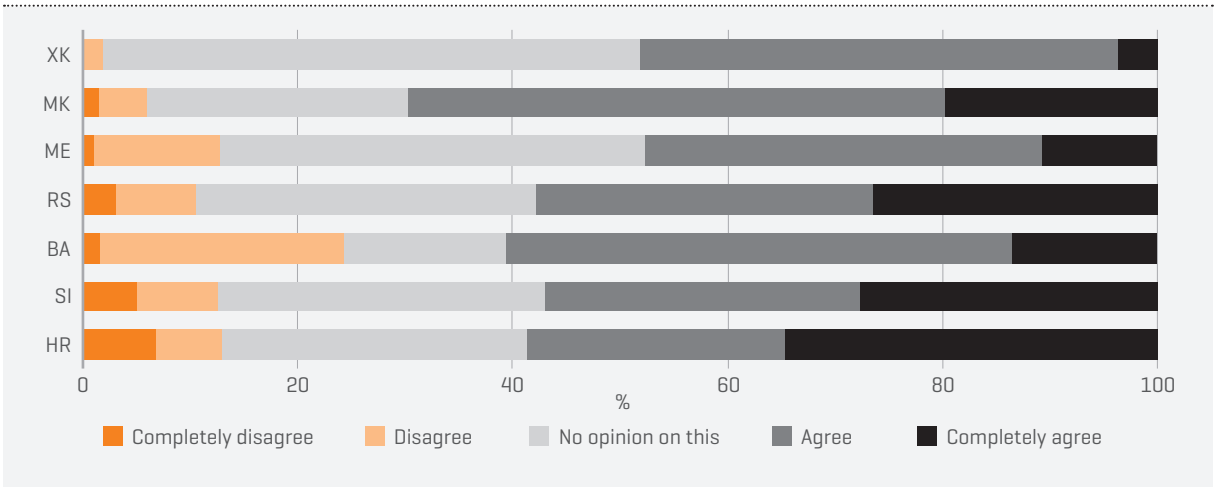

Source: Survey data.

10 tons of illicit cut tobacco confiscated in Zagreb, December 2018.

Photo: Zagreb Police.

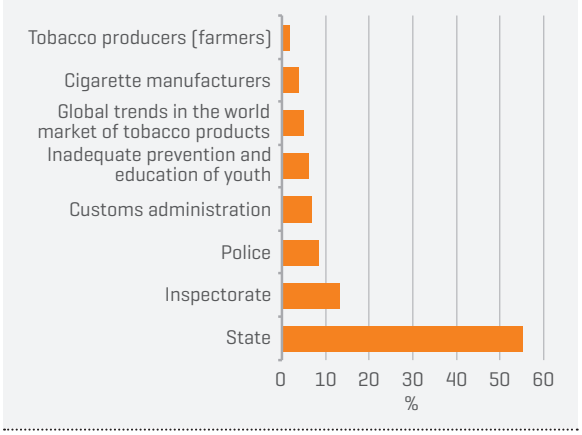
Finally, the respondents were asked **who is mostly responsible for the present condition of the gray market of tobacco products in the country**. Slightly above five in ten respondents think the state is the most responsible for the present condition of the gray market of tobacco products in the country. According to the opinion of 13 percent of all respondents, the state inspectorate is the most responsible, followed by the police (8 percent) and customs administration (7 percent). Less than 2 percent of all respondents think that tobacco producers are the most responsible for the present condition of the gray market of tobacco products.

**Figure 1.46:** Selling cigarettes on the gray market is not sanctioned enough




Source: Survey data.

**Figure 1.47:** Responsibility for the present condition of the gray market of tobacco products in the country




Source: Survey data.

## 1.8 General public opinion about the tobacco gray market

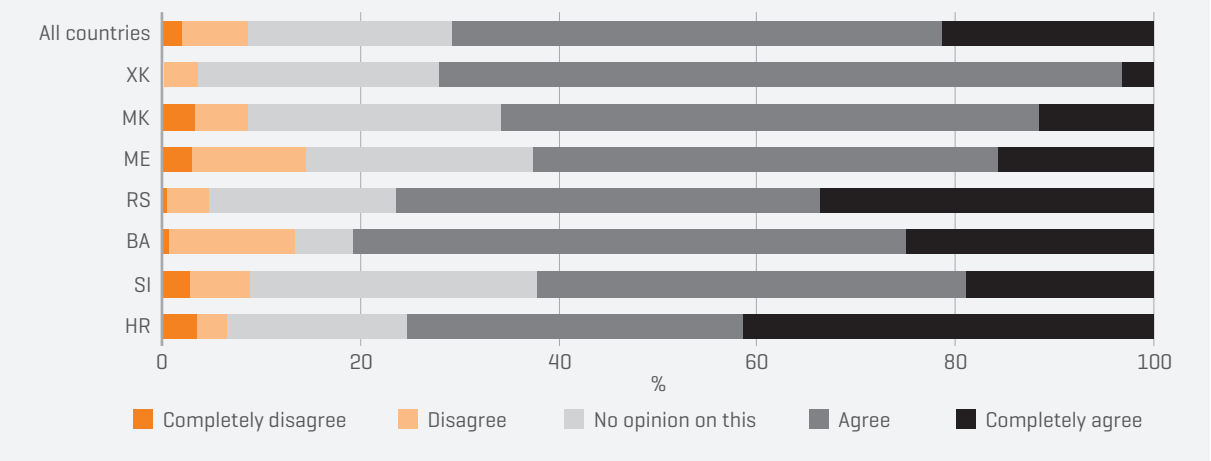
The respondents were also asked to express their general views about the tobacco gray market. The general opinion of most of the citizens across the analyzed seven countries is that **smokers sometimes buy gray market tobacco products**. As much as 71 percent of all respondents share this opinion, and the opinion is widespread regardless of the smoking status of the respondent (Figure 1.48). Bosnia and Herzegovina stands out with the highest proportion of respondents (81 percent) who agree or completely agree with the statement. In other countries, this share ranges from 62 percent in Slovenia to 75 percent in Croatia.

Around 39 percent of all respondents think that **if there were no gray market of tobacco products, people would be smoking less**, while 40 percent of all respondents think that the gray market of tobacco products has an impact on the smoking frequency (Figure 1.49). Expectedly, more non-smokers than smokers agree with the claim that people would be smoking less if there were no gray market of tobacco products. However, almost half of the smokers who buy tobacco products on the gray market disagree with this statement.

Bosnia and Herzegovina stands out with the highest proportion of respondents who think that there is a link between the gray market of tobacco products and the smoking frequency, 66 percent. Conversely, the highest proportions of those who disagree or completely disagree with this statement are found in North Macedonia and Slovenia, 61 percent and 58 percent, respectively.

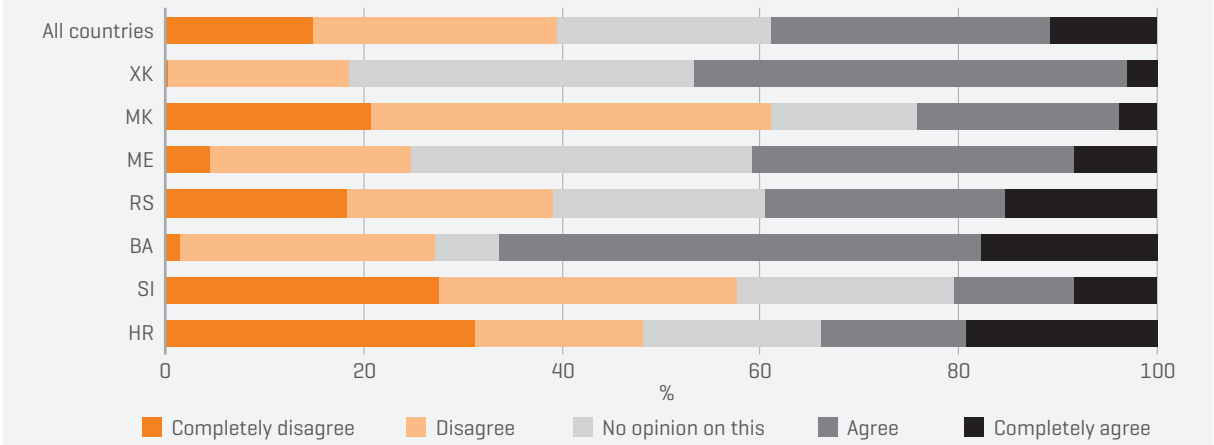
More than half of the citizens generally think that **not all smokers can afford legal tobacco products**. The view that the prices of tobacco products are too high and that not all smokers can afford to buy them on the legal market is particularly pronounced among smokers who purchase tobacco products on the gray market. Thus, three out of four smokers who buy tobacco products on the gray market think that not all smokers can afford legal tobacco products (Figure 1.50).

**Figure 1.48:** Smokers sometimes buy gray market tobacco products




Source: Survey data.


**Figure 1.49:** If there were no gray market of tobacco products, people would be smoking less



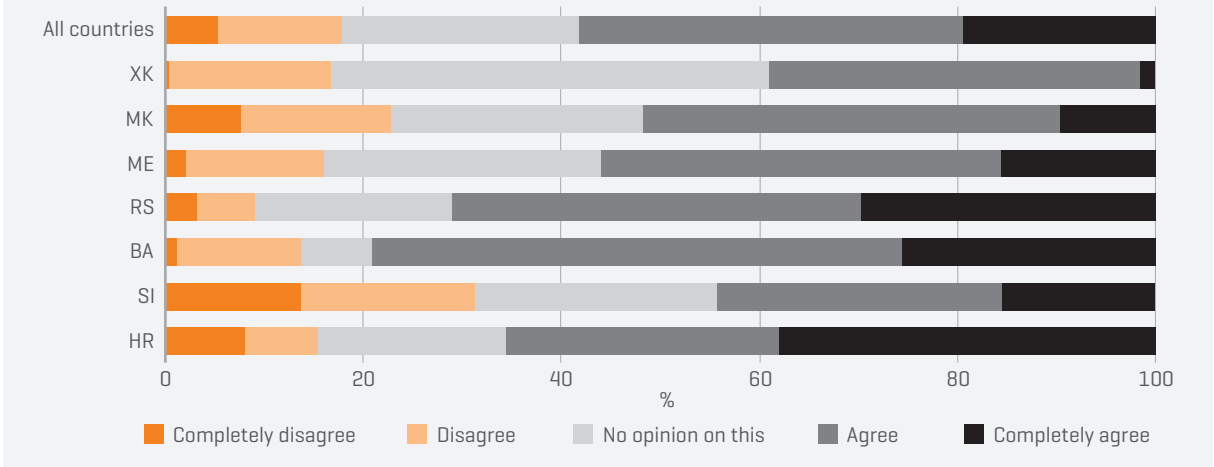

Source: Survey data.

With the exception of Kosovo and Slovenia, where less than half of all citizens agree with the statement, the proportion of those who do agree with it is in the majority in all other countries. Bosnia and Herzegovina stands out with 79 percent of those who share the opinion, followed by Serbia (71 percent) and Croatia (66 percent). When it comes to the attitudes of smokers, the vast majority of smokers in Bosnia and Herzegovina, Croatia, and Serbia agree or completely agree with this statement, 80 percent, 77 percent, and 71 percent, respectively.

More than half of the citizens generally recognize tobacco as an important crop in their country (Figure 1.51). Therefore, 52 percent of all citizens think that **tobacco should be grown as an important crop in their country**. With the exception of Slovenia and Montenegro, where less than a third of the citizens agree with this statement, the proportion of those giving this response is in the majority in the other countries, ranging from 54 percent in Croatia to 79 percent in North Macedonia. Interestingly, in Montenegro the largest proportion of smokers does not have a particular opinion on this statement, 35 percent of them.

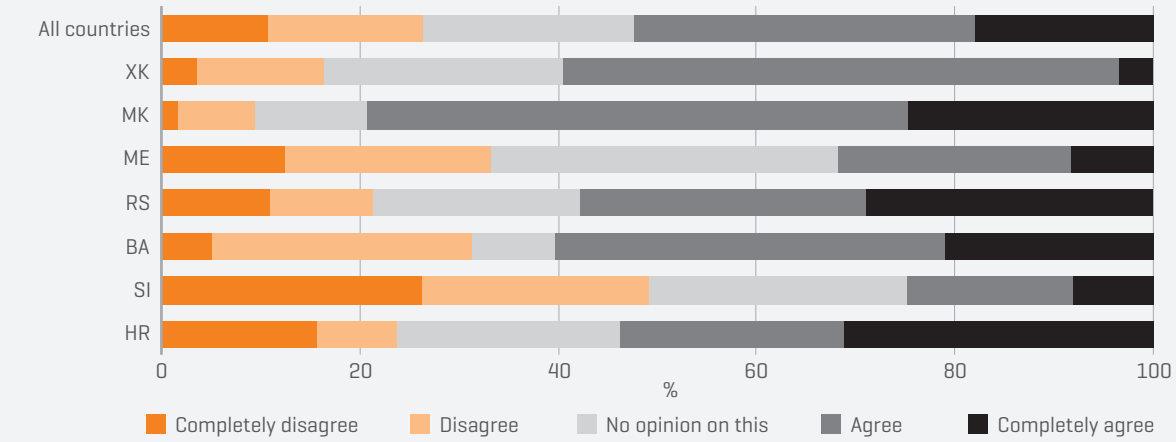
In Slovenia, almost half of the citizens think that tobacco is not an important crop. However, data on smoking

**Figure 1.50:** Not all smokers can afford legal tobacco products




Source: Survey data.

**Figure 1.51:** Tobacco should be grown as an important crop in the country



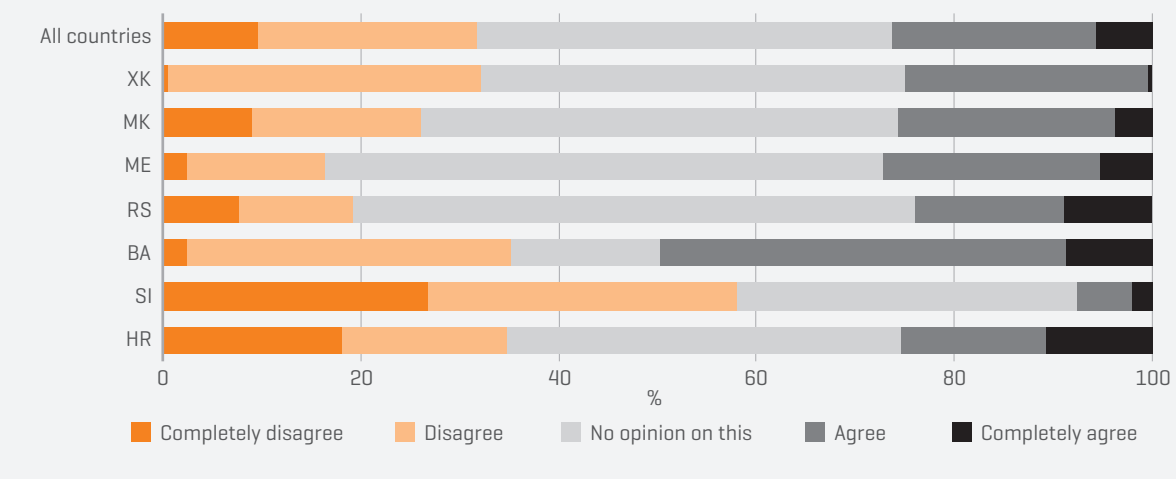

Source: Survey data.

prevalence and international trade of tobacco products offer two explanations for such an opinion of the Slovenian citizens. First, smoking prevalence in Slovenia is lower than in the other analyzed countries and most Slovenian smokers mainly purchase tobacco products at points of sale within the country. Second, Slovenian tobacco exports are rather small and Slovenia is a net importer of tobacco products.

The respondents also gave their opinion about the origin of tobacco products on the gray market. Average data for the analyzed countries indicate that around a third of the citizens disagree with the statement that **tobacco products on the gray market are mostly of domestic origin**. Interestingly, it seems that citizens do not consider this issue very important. As much as 39 percent of smokers and 44 percent of non-smokers do not have an opinion on this statement (Figure 1.52).

Slovenia stands out with the majority of respondents disagreeing with the statement that tobacco products on the gray market are mostly of domestic origin, which corresponds with the previous statement about the importance of tobacco as a crop in their country. On the other hand, Bosnia and Herzegovina stands out with the

**Figure 1.52:** Tobacco products on the gray market are mostly of domestic origin




Source: Survey data.


largest percentage of respondents who think that tobacco products on the gray market are mostly of domestic origin.

There are more pronounced country-level differences when it comes to the attitudes of smokers of tobacco products purchased on the gray market. In Slovenia the majority of illicit smokers disagree or completely disagree with this statement (68 percent), in Serbia the majority of them do not have an opinion on this (59 percent), while in Bosnia and Herzegovina the majority of illicit smokers agree or completely agree with this statement (53 percent). In North Macedonia and Croatia, the largest percentage of illicit smokers supports this statement, 46 percent and 38 percent, respectively.

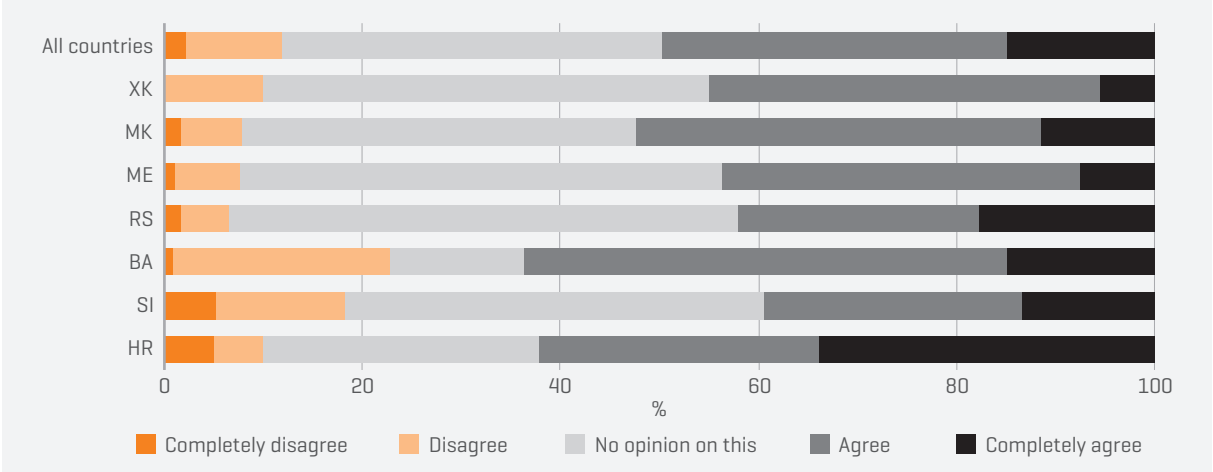
Generally, almost half of the citizens in the analyzed countries think that **most smuggled cigarettes and tobacco come from areas near the border** and around a third of them have no opinion on this (Figure 1.53). On average, 52 percent of smokers who buy tobacco products at legal places of purchase and 39 percent of those who purchase tobacco products on the gray market think that most smuggled cigarettes and tobacco come from areas near the border.

In three out of seven countries, the majority of respondents agree or completely agree with the statement that most smuggled cigarettes and tobacco come from areas near the border. In Bosnia and Herzegovina 64 percent of respondents think that most smuggled cigarettes and tobacco come from areas near the border, in Croatia 62 percent think so, and in North Macedonia 52 percent. The lowest proportion of respondents giving this response is seen in Slovenia, 39 percent.

Bosnia and Herzegovina stands out with the highest proportion of smokers who agree with this statement, followed by Croatia, Kosovo, and North Macedonia.

With the exception of Bosnia and Herzegovina and Croatia, where the majority of illicit smokers think that most smuggled cigarettes and tobacco come from areas near the border (69 percent and 62 percent, respectively), the proportion of respondents giving this response is significantly lower in the other countries. Montenegro and Slovenia stand out with the lowest proportion of illicit smokers agreeing with this statement, 19 percent and 20 percent, respectively. At the same time, North Macedonia and Serbia stand out with the highest proportion of illicit smokers who do not have a particular opinion on this, 66 percent and 56 percent, respectively.

**Figure 1.53:** Most smuggled cigarettes and tobacco come from areas near the border




Source: Survey data.

# 2 Tobacco industry and trade

## 2.1 Regional overview

Balkan countries have been producers of tobacco leaves and manufactured tobacco products for centuries. Production of tobacco leaves has its specific features and problems, which vary in each analyzed country. Below we provide a description of the types of tobacco grown in Bosnia and Herzegovina, a country once known as a major producer and trader of tobacco leaves and cut tobacco in the region.

Tobacco production in Bosnia and Herzegovina has a centuries-old tradition, and organized production has lasted for almost 140 years. Tobacco was the most important crop and one of the most important economic activities in Herzegovina for a long time. In some parts of Bosnia, tobacco was also a very important crop. Three types of tobacco are grown in Bosnia and Herzegovina: Virginia and Burley in Bosnia and Herzegovinian Ravnjak in Herzegovina. Virginia and Burley, as global tobacco types, participate in trade on world markets, while Herzegovinian Ravnjak is a local type of tobacco whose market is limited (Beljo, Herceg, & Nurkić, 2016, pp. 49-50).

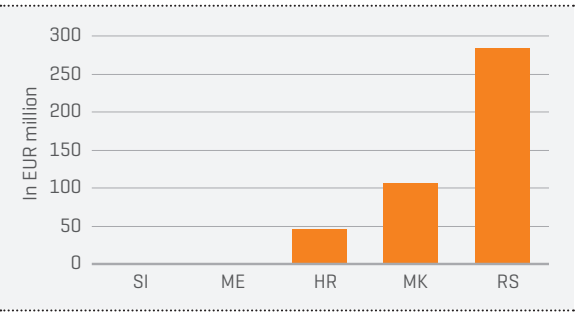
Dry tobacco leaf, farm in Virovitica, Croatia, November 2017.

Author: Jelena Mihalj.

Tobacco leaf cultivation and production of tobacco leaves (unmanufactured tobacco) include the growing of tobacco, preliminary processing, harvesting, and drying of tobacco leaves. Analysis of the tobacco agricultural sector is beyond the scope of this study, although it constitutes part of the tobacco sector in the region. Tobacco smuggling and gray market transactions explored in this study refer to tobacco manufactured products. They include the manufacture of tobacco products and products of tobacco substitutes, cigarettes, cigarette tobacco, cigars, pipe tobacco, cured stemmed or striped tobacco leaves, smoking tobacco, other manufactured tobacco, and tobacco extracts and essences.

Data on tobacco manufacturing in the region show that three countries in the region produce tobacco products: Serbia, North Macedonia, and Croatia (Figure 2.1).

**Figure 2.1:** Tobacco manufacturing in the region, 2017




Notes: Cigarettes containing tobacco or mixtures of tobacco and tobacco substitutes – data not available because rated as "confidential" for North Macedonia and Bosnia and Herzegovina. Smoking tobacco – data not available because rated as "confidential" for Serbia and Bosnia and Herzegovina. Manufactured tobacco – data not available because rated as "confidential" for Bosnia and Herzegovina.

Source: Statistics on the production of manufactured goods, Eurostat. Eurostat data are not available for Kosovo and Bosnia and Herzegovina.

The data on tobacco production are incomplete. Due to the missing "confidential" data, there are no records on existing production for Bosnia and Herzegovina. There are no Eurostat statistical data on tobacco production for Kosovo either. In Slovenia and Montenegro, official statistics show there is no national tobacco production. Despite some missing data, Serbia stands as the major producer in the region with value of production of about EUR 284 million, followed by North Macedonia with its production of manufactured tobacco. Croatia is the only analyzed country with full coverage in the Eurostat dataset. Croatia stands as a producer of tobacco products in all three observed categories: cigarettes, manufactured tobacco, and smoking tobacco (to a lesser extent).


**Map 2.1:** Tobacco imports from the region


Source: ITC calculations based on UN COMTRADE.

**Internationally comparable data on tobacco production for the seven analyzed countries in the region are missing. If the production is not properly recorded in official statistics, part of the production might remain unrecorded and end up on the gray market.**

Mutual tobacco trade is evident in the region. The main importer from other countries in the region is Kosovo with over EUR 62 million of tobacco imports in 2017. Slovenia and Croatia recorded low values of tobacco imports from regional trading partners (Map 2.1).

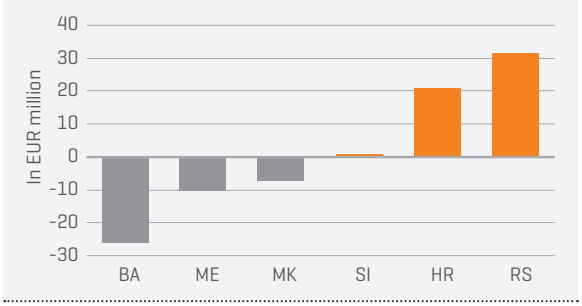
Serbia, Croatia, and North Macedonia are, on the other hand, important tobacco exporters to other countries in the region (Map 2.2). Serbian annual exports to regional tobacco trade partners amount to over EUR 40 million, which is significantly higher than the exports of Bosnia and Herzegovina, Slovenia, and Montenegro (below EUR 4 million in 2017). Kosovo does not export tobacco products at all.

**Map 2.2:** Tobacco exports to the region


Source: ITC calculations based on UN COMTRADE.

Three countries have a positive trade balance in tobacco products trade within the region. Serbia trades in tobacco with over EUR 30 million of annual surplus, and Croatian exports in 2017 surpassed imports by about EUR 20 million (Figure 2.2). The Slovenian trade balance is slightly positive. North Macedonia and Montenegro have a moderately negative trade balance with other countries in the region, while the trade deficit of Bosnia and Herzegovina was over EUR 25 million in 2017.

**Figure 2.2:** Tobacco trade balance within the region, 2017

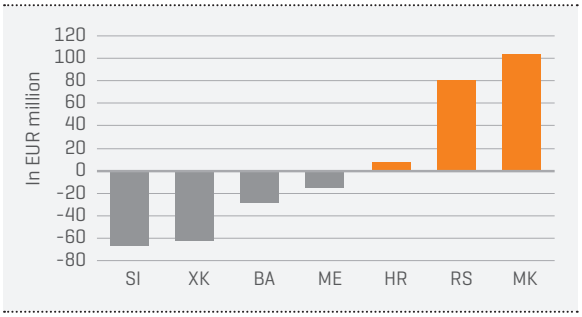



Note: Data for Kosovo are not available.

Source: ITC calculations based on UN COMTRADE.

Insight into the total international tobacco trade by country gives a completely different picture. The analyzed countries trade in tobacco products with other trading partners from the EU and overseas, which contributes to the higher and positive total tobacco trade balance for North Macedonia (EUR 103 million) and Serbia (EUR 80 million) (Figure 2.3).

**Figure 2.3:** Tobacco trade balance, 2017




Source: ITC calculations based on UN COMTRADE.

Slovenia and Kosovo, followed by Bosnia and Herzegovina and Montenegro, are net importers of tobacco products. The structure of legal tobacco trade is quite different for all the countries in the region, so it is worth illustrating their tobacco trade profile.

## 2.2 Croatia

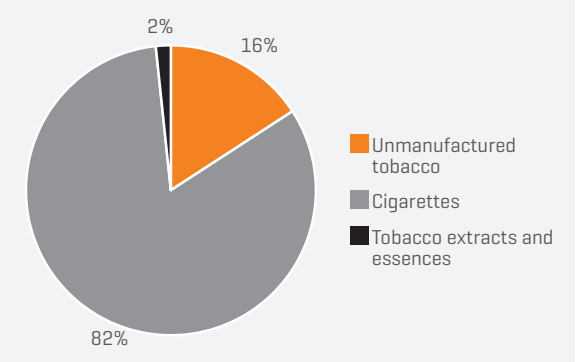
Analyzing Croatia's market position in tobacco trade within the Western Balkan countries, it is evident that **Croatia is a net exporter.**

In 2017, Croatia exported EUR 23 million of tobacco products to the Western Balkan countries, which is 20.3 percent of its total tobacco exports[1]. **The Croatian trade balance in tobacco products with the Western Balkan countries is extremely positive.** The trade surplus in 2017 was EUR 20.6 million.

In the structure of Croatian tobacco exports to the Western Balkan countries, the largest share is made up of cigarettes (82 percent), followed by unmanufactured tobacco (16 percent) and tobacco extracts and essences (2 percent). However, it is important to note that the export structure in the period from 2001 to 2017 changed in favor of unmanufactured tobacco. During this period, the share of unmanufactured tobacco in total exports increased from 1 percent to 16 percent. At the same time, the share of cigarettes decreased from 99 percent to 82 percent (Figure 2.4).

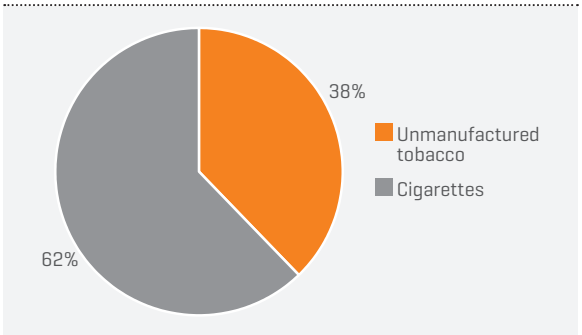
In the import structure, cigarettes also prevail. They account for 62 percent of the total Croatian imports of tobacco products from the Western Balkan countries. Unmanufactured tobacco follows, with a share of 38 percent (Figure 2.5).

**Figure 2.4:** Croatia's tobacco exports to the Western Balkan countries by product in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

**Figure 2.5:** Croatia's tobacco imports from the Western Balkan countries by product in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

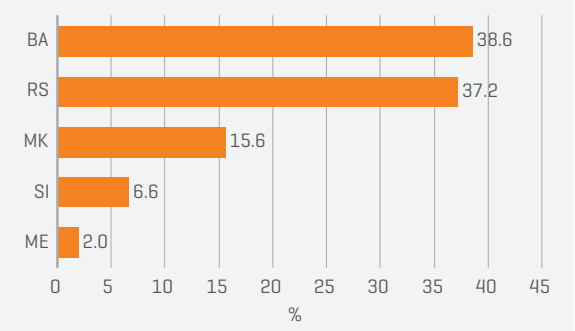
Although the Western Balkan countries account for a relatively large share of Croatia's total tobacco product

[1] However, the EU-15 is the most important export destination for Croatian tobacco products. In 2017, Croatia exported 60.2 percent of its total tobacco exports to EU-15 countries.

exports, trend analysis shows that exports to the Western Balkan countries have been declining. At the same time, exports to EU countries, as well as to other markets, have been increasing.

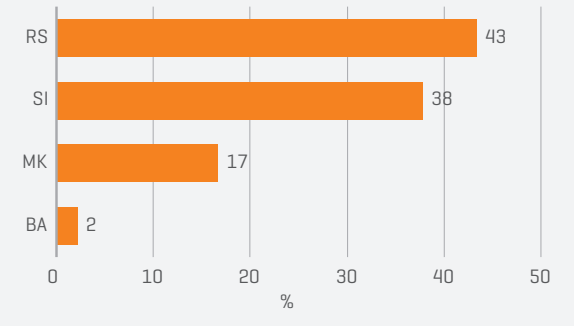
In the period from 2001 to 2017, **Croatian tobacco exports to the Western Balkan countries decreased** by an annual average of 7.7 percent, from EUR 88.2 million to EUR 23 million. Among the analyzed Western Balkan countries, Croatia exports the most tobacco products to Bosnia and Herzegovina (Figure 2.6). The main reason for significant export decreases to the Western Balkan countries lies in the drop in Croatian tobacco exports to Bosnia and Herzegovina. In the period from 2001 to 2017, Croatia's exports of tobacco products to Bosnia and Herzegovina fell from EUR 51.2 million to EUR 8.9 million.

**Figure 2.6:** Croatia's tobacco exports to the Western Balkan countries by market in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

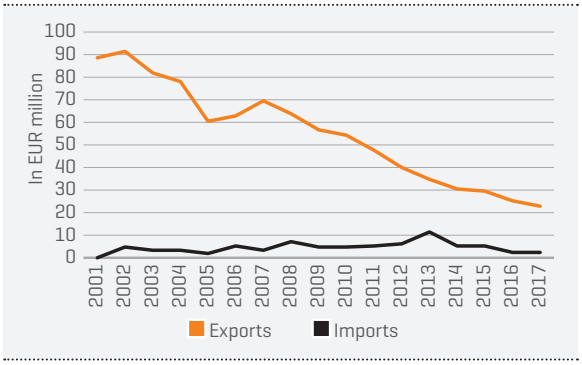
**Figure 2.7:** Croatia's tobacco imports from the Western Balkan countries by market in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Croatian tobacco imports from the Western Balkan countries were low and rather stable (Figure 2.8). Most of Croatia's tobacco imports originate from Serbia (43 percent) and Slovenia (38 percent) (Figure 2.7).

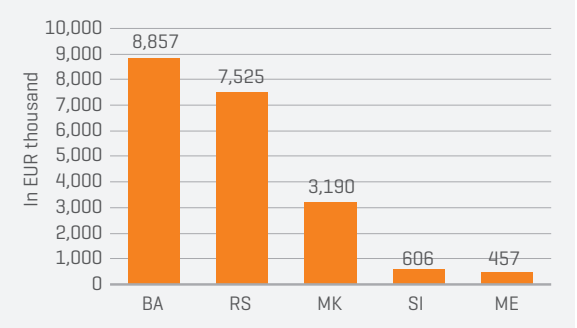
**Figure 2.8:** Croatia's tobacco trade with the Western Balkan countries




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Despite the significant decline in tobacco exports to the Western Balkan countries, Croatia continues to hold a relatively good position in these markets in terms of positive trade balance (Figure 2.9). The total trade surplus with the Western Balkan countries in 2017 was EUR 20.6 million.

**Figure 2.9:** Croatia's tobacco trade balance with the Western Balkan countries in 2017



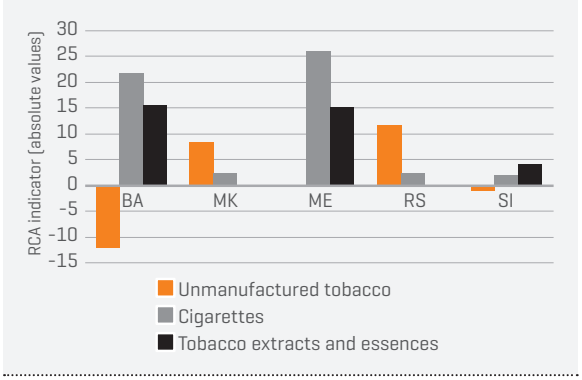

Source: Authors' calculations based on UN COMTRADE and ITC statistics.

In almost all Western Balkan markets and product groups, Croatia has comparative advantages measured by the revealed comparative advantages (RCA) indicator[2] (Figure

[2] For RCA methodology see Balassa (1965).

2.10). Comparative advantages are not present in the trade of unmanufactured tobacco on the markets of Bosnia and Herzegovina and Slovenia (the RCA indicator is negative).

**Figure 2.10:** RCA indicator for Croatia's tobacco trade with the Western Balkan countries




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

## 2.3 Bosnia and Herzegovina

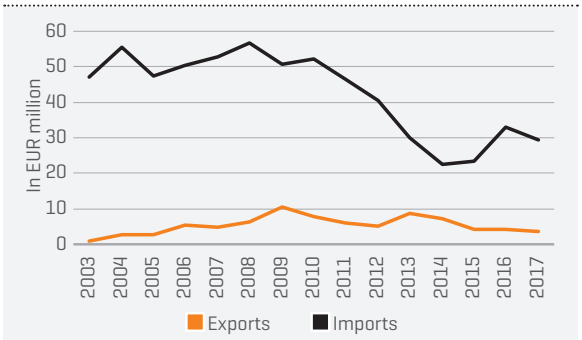
**Bosnia and Herzegovina is a tobacco net importer.** In 2017, Bosnia and Herzegovina imported EUR 29.3 million of tobacco products from the Western Balkan countries (80 percent of total tobacco imports). The trade balance of Bosnia and Herzegovina in tobacco products with the Western Balkan countries is extremely negative. The trade deficit in 2017 was EUR 25.8 million.

In 2017, Bosnia and Herzegovina exported EUR 3.5 million of tobacco products to the Western Balkan countries. Cigarettes account for 98 percent of both exports and imports of Bosnia and Herzegovina with the countries in the region.

Although the Western Balkan countries account for a relatively large share of the total import structure, trend analysis shows that imports of tobacco products from the Western Balkan countries significantly declined in the observed period (Figure 2.11). The same trend exists for imports from EU countries and other markets. Import reduction was particularly pronounced during and after the global economic crisis in 2008. These trends could indicate a drop in consumption of tobacco products on the domestic market, an increase in domestic tobacco production, or an increase in buying on the gray market.

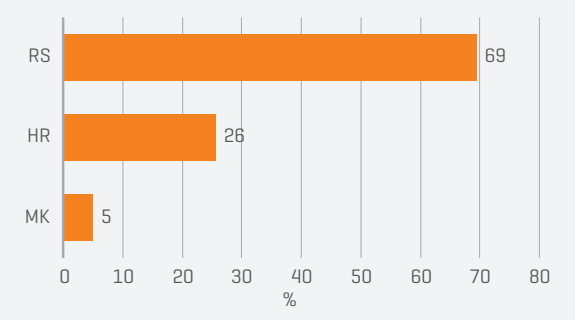
In absolute terms, in the 2008–2017 period, total tobacco imports of Bosnia and Herzegovina fell from EUR 78.6 million to EUR 36.5 million, and imports from the Western Balkan countries fell from EUR 56.6 million to EUR 29.3 million. Among the analyzed Western Balkan countries, Bosnia and Herzegovina imports the most tobacco products from Serbia (70 percent), Croatia (26 percent), and North Macedonia (5 percent) (Figure 2.12).

**Figure 2.11:** Bosnia and Herzegovina's tobacco trade with the Western Balkan countries




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

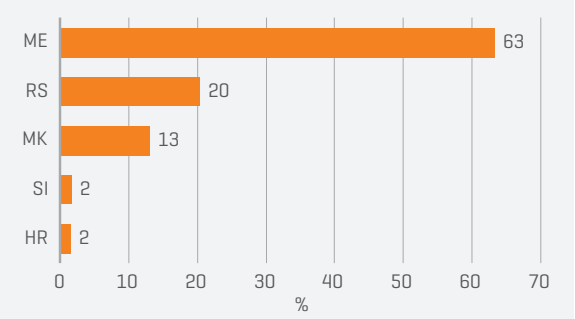
**Figure 2.12:** Bosnia and Herzegovina's tobacco imports from the Western Balkan countries by market in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Exports of tobacco products from Bosnia and Herzegovina to the Western Balkan countries reduced significantly after 2013 (Figure 2.13). In the period from 2013 to 2017, exports decreased from EUR 8.5 million to EUR 3.5 million. In 2017, Bosnia and Herzegovina exported the most to Montenegro (64 percent), Serbia (20 percent), and North Macedonia (13 percent).

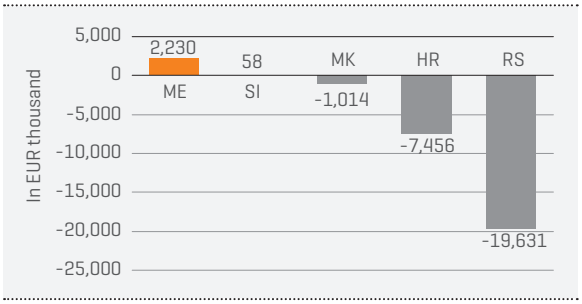
**Figure 2.13:** Bosnia and Herzegovina's tobacco exports to the Western Balkan countries by market in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

In 2017, Bosnia and Herzegovina had a negative balance in tobacco trade with Serbia (EUR 19.6 million), Croatia (EUR 7.4 million), and North Macedonia (EUR 1.0 million). At the same time, the trade balance was positive with Montenegro (EUR 2.2 million) and Slovenia (EUR 58,000) (Figure 2.14).

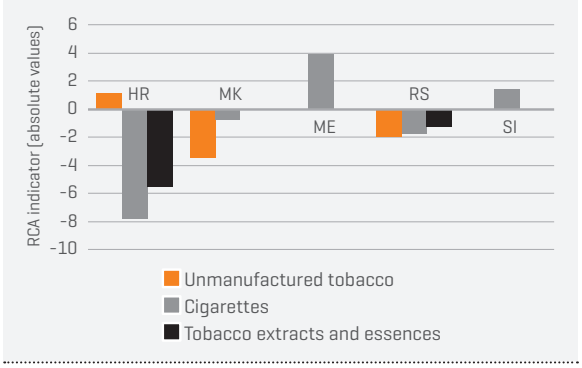
**Figure 2.14:** Bosnia and Herzegovina's tobacco trade balance with the Western Balkan countries in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Taking into account that Bosnia and Herzegovina is a net importer of tobacco products, it is not expected to have significant comparative advantages on the Western Balkan markets. Comparative advantages are only present in the trade of unmanufactured tobacco on the Croatian market and in the trade of cigarettes on the Montenegrin and Slovenian markets (Figure 2.15).

**Figure 2.15:** RCA indicator for Bosnia and Herzegovina's tobacco trade with the Western Balkan countries

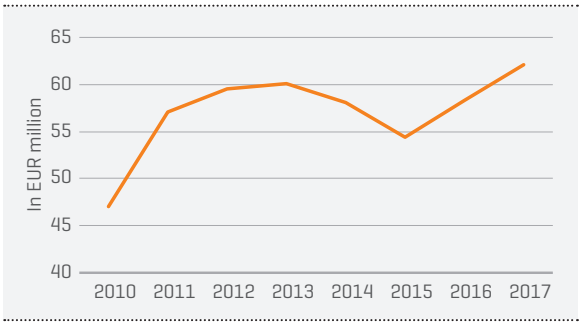



Source: Authors' calculations based on UN COMTRADE and ITC statistics.

## 2.4 Kosovo

Kosovo's tobacco trade is only based on imports and Kosovo is an **absolute net importer of tobacco products**. In 2017, imports of tobacco products in Kosovo amounted to EUR 62.1 million. Trend analysis shows that after reduced imports from 2013 to 2015, imports regained momentum after 2015 and continued to gradually grow until 2017 (Figure 2.16).

**Figure 2.16:** Kosovo's tobacco imports in the period from 2010 to 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

The trade balance is negative in all the observed years (2010–2017), while the trade deficit was the highest in 2017 and amounted to EUR 62.1 million.

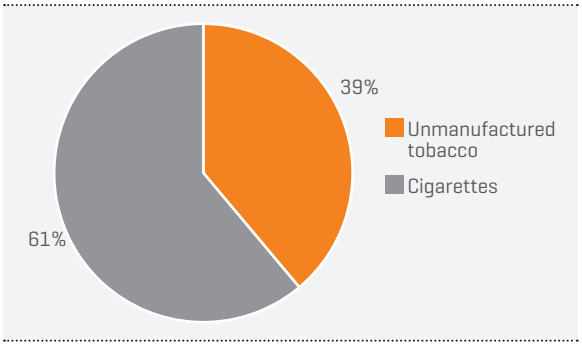

## 2.5 Montenegro

**In tobacco trade with the Western Balkan countries, Montenegro is a net importer.** In 2017, Montenegro imported EUR 10.7 million of tobacco products from the Western Balkan countries (68 percent of the total tobacco imports of Montenegro). Montenegro's trade balance in tobacco products with the Western Balkan countries is negative. The trade deficit in 2017 was EUR 10.2 million.

Of all the tobacco products, Montenegro imports only cigarettes from the Western Balkan countries, mostly from Serbia (86.5 percent).

Montenegro's tobacco exports to the Western Balkan countries are very modest. In 2017, they amounted to EUR 542,000. In the export structure, cigarettes account for 61 percent, while unmanufactured tobacco accounts for 39 percent of tobacco exports (Figure 2.17).

**Figure 2.17:** Montenegro's tobacco exports to the Western Balkan countries by product in 2017

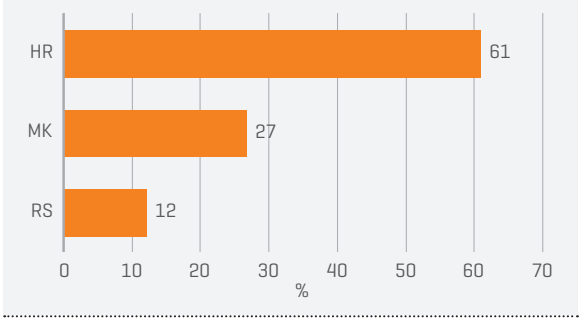



Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Most of those exports ended up in Croatia (61 percent), North Macedonia (27 percent), and Serbia (12 percent) (Figure 2.18).

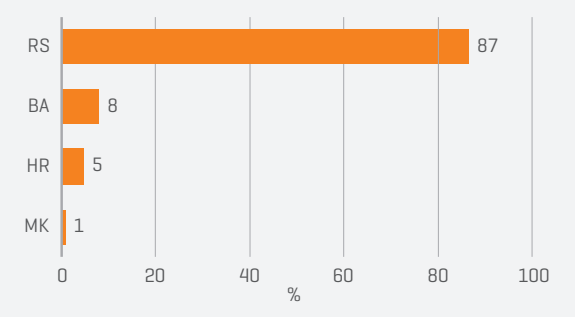
Analysis of the import trend shows that imports from the Western Balkan countries significantly decreased in the 2009–2014 period. Serbia is Montenegro's main import partner in the region (Figure 2.19).

**Figure 2.18:** Montenegro's tobacco exports to the Western Balkan countries by market in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

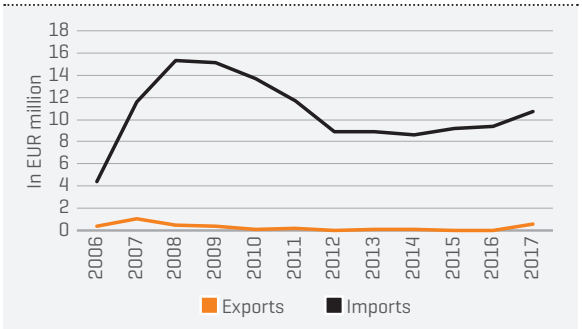
**Figure 2.19:** Montenegro's tobacco imports from the Western Balkan countries by market in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

In relative terms, imports decreased by 43.4 percent in the 2009–2014 period. After 2014, imports have been gradually recovering. In the 2014–2017 period, imports increased by 24.1 percent (Figure 2.20).

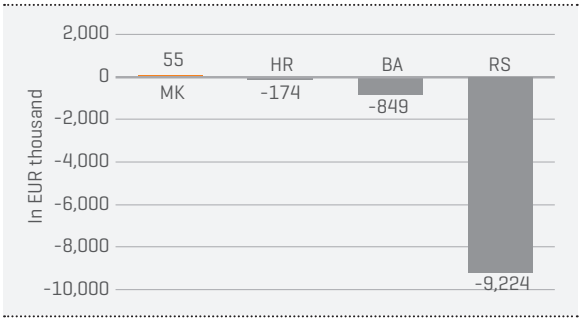
**Figure 2.20:** Montenegro's tobacco trade with the Western Balkan countries




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Montenegro has a negative tobacco trade balance with nearly all Western Balkan countries (Figure 2.21). The biggest negative balance is with Serbia (EUR 9.2 million), followed by Bosnia and Herzegovina (EUR 842,000) and Croatia (EUR 174,000). North Macedonia is the only Western Balkan country with which Montenegro has a positive trade balance in tobacco products.

**Figure 2.21:** Montenegro's tobacco trade balance with the Western Balkan countries in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Montenegro has no comparative advantages in nearly any product groups and markets in the Western Balkan countries. Comparative advantages are only present in the trade of unmanufactured tobacco on the markets of North Macedonia and Serbia (Figure 2.22).

**Figure 2.22:** RCA indicator for Montenegro's tobacco trade with the Western Balkan countries

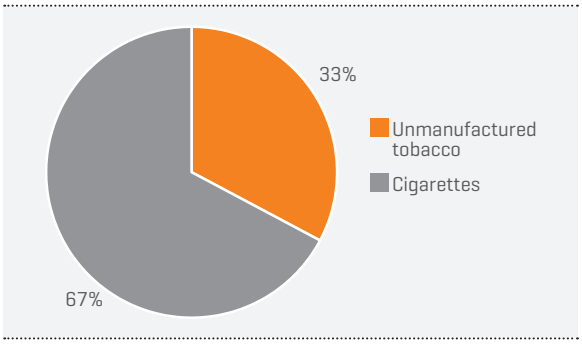

Source: Authors' calculations based on UN COMTRADE and ITC statistics.

## 2.6 North Macedonia

In tobacco trade with the Western Balkan countries, North Macedonia is a net importer. In 2017, North Macedonia imported EUR 18.1 million of tobacco products from the Western Balkan countries. At the same time, exports to the Western Balkan countries amounted to EUR 10.9 million. **The trade balance of North Macedonia in tobacco products with the Western Balkan countries is negative.** The trade deficit in 2017 was EUR 7.2 million.

Cigarettes prevail in the export structure (67 percent). The remaining third of exports is unmanufactured tobacco (Figure 2.23).

**Figure 2.23:** North Macedonia's tobacco exports to the Western Balkan countries by product in 2017

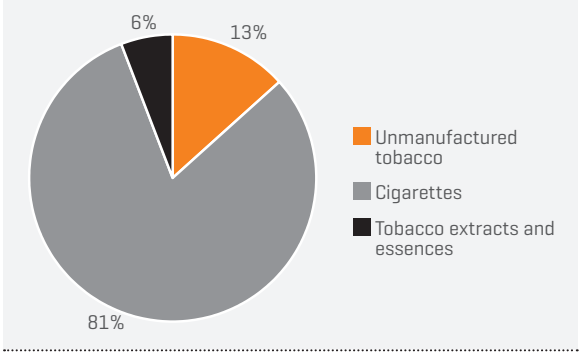



Source: Authors' calculations based on UN COMTRADE and ITC statistics.

In the import structure, the largest share comes from cigarettes (81 percent), followed by unmanufactured tobacco (13 percent) and tobacco extracts and essences (6 percent) (Figure 2.24).

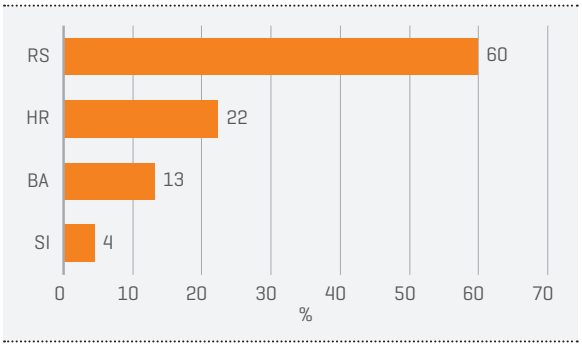
The main North Macedonian trading partner in tobacco products among the Western Balkan countries is Serbia. Of the total tobacco exports to these markets, North Macedonia exports 60 percent to Serbia, 22.4 percent to Croatia, and 13.2 percent to Bosnia and Herzegovina (Figure 2.25).


**Figure 2.24:** North Macedonia's tobacco imports from the Western Balkan countries by product in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

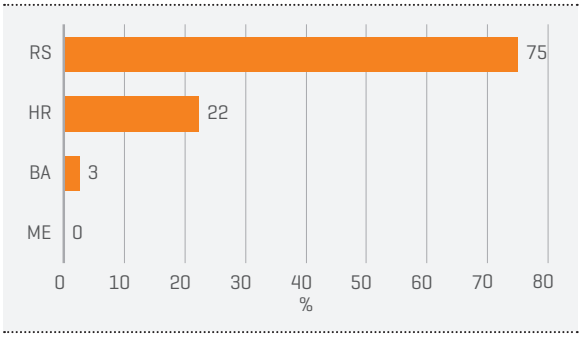
**Figure 2.25:** North Macedonia's tobacco exports to the Western Balkan countries by market in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

North Macedonia imports tobacco products mostly from Serbia (75 percent), followed by Croatia (22 percent) and Bosnia and Herzegovina (2.6 percent) (Figure 2.26).

**Figure 2.26:** North Macedonia's tobacco imports from the Western Balkan countries by market in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

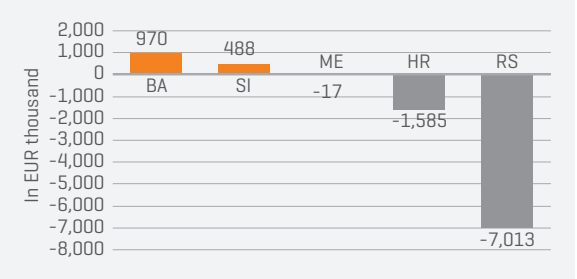
Trend analysis for the 2001–2017 period shows that North Macedonia's position within the Western Balkan markets changed from a net exporter to a net importer. In that period, North Macedonian exports to the Western Balkan countries decreased from EUR 36.7 million to EUR 10.9 million. At the same time, imports increased from EUR 5.5 million to EUR 18.1 million (Figure 2.27).

**Figure 2.27:** North Macedonia's tobacco trade with the Western Balkan countries


Source: Authors' calculations based on UN COMTRADE and ITC statistics.

North Macedonia had a negative balance in tobacco trade with Serbia (EUR 7 million), Croatia (EUR 1.6 million), and Montenegro (EUR 17,000) in 2017 (Figure 2.28). At the same time, the trade balance was positive with Bosnia and Herzegovina (EUR 970,000) and Slovenia (EUR 488,000).

**Figure 2.28:** North Macedonia's tobacco trade balance with the Western Balkan countries in 2017

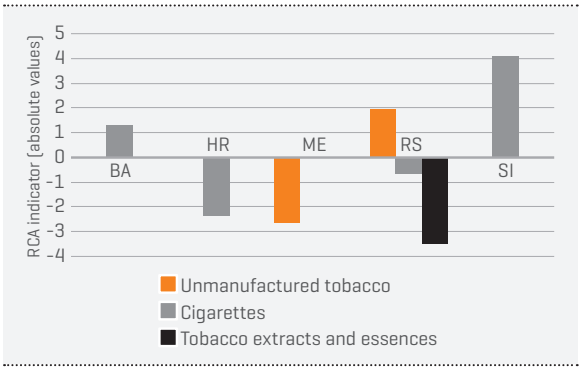



Source: Authors' calculations based on UN COMTRADE and ITC statistics.

North Macedonia has comparative advantages on the Western Balkan markets – in the trade of unmanufactured tobacco on the Serbian market and in the trade of

cigarettes on the markets of Bosnia and Herzegovina and Slovenia (Figure 2.29).

**Figure 2.29:** RCA indicator for North Macedonia's tobacco trade with the Western Balkan countries




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

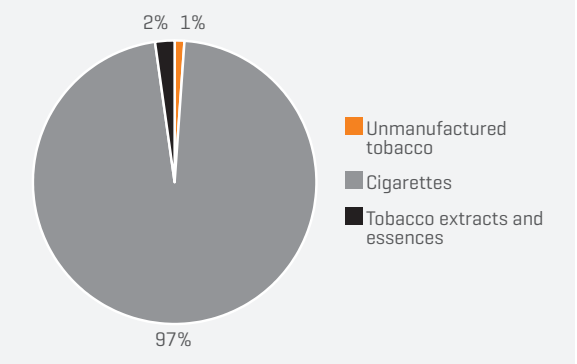
## 2.7 Serbia

Analyzing Serbia's market position in tobacco trade within the Western Balkan countries, it is evident that **Serbia is a net exporter**. In 2017, Serbia exported EUR 40.1 million of tobacco products to the Western Balkan countries. This is 15.7 percent of Serbia's total tobacco exports. The Serbian trade balance in tobacco products with the Western Balkan countries is extremely positive. The trade surplus in 2017 was EUR 31.5 million.

In the structure of Serbian tobacco exports to the Western Balkan countries, the largest share comes from cigarettes (97 percent). The remaining product groups (unmanufactured tobacco and tobacco extracts and essences) have very small shares in the total export structure. The share of tobacco extracts and essences is 2 percent, and the share of unmanufactured tobacco is 1 percent (Figure 2.30).

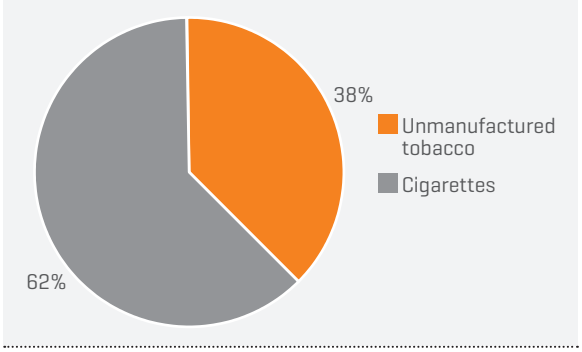
In the import structure, cigarettes again prevail, accounting for 62 percent of the total Serbian imports of tobacco products from the Western Balkan countries. The share of unmanufactured tobacco in tobacco imports is 38 percent (Figure 2.31).

**Figure 2.30:** Serbia's tobacco exports to the Western Balkan countries by product in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

**Figure 2.31:** Serbia's tobacco imports from the Western Balkan countries by product in 2017



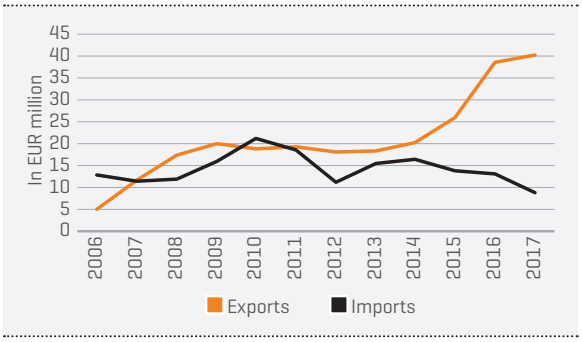

Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Trend analysis shows that Serbia has strengthened its position as a net exporter on the Western Balkan markets. This is the result of a strong growth in exports of Serbian tobacco products on these markets over the last few years. At the same time, imports have decreased. In the 2014–2017 period, Serbian exports of tobacco products to the Western Balkan markets almost doubled. They grew from EUR 20.1 million to EUR 40.1 million. On the other hand, imports decreased from EUR 16.4 million to EUR 8.4 million (Figure 2.32).

Among the analyzed Western Balkan countries, Serbia exports the most tobacco products to Bosnia and Herzegovina (38.6 percent). This is followed by exports to North Macedonia (31.1 percent) and Montenegro

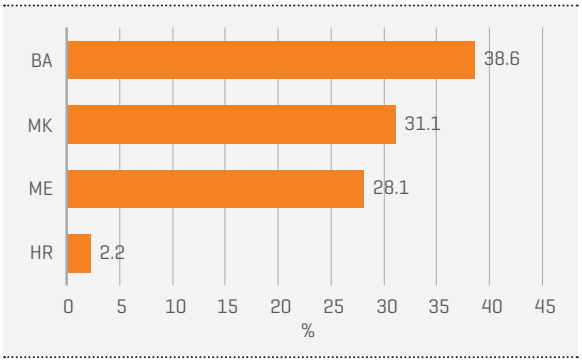

(28.1 percent). At the same time, Serbia realizes modest tobacco exports to Croatia (2.2 percent) (Figure 2.33).

**Figure 2.32:** Serbia's tobacco trade with the Western Balkan countries




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

**Figure 2.33:** Serbia's tobacco exports to the Western Balkan countries by market in 2017



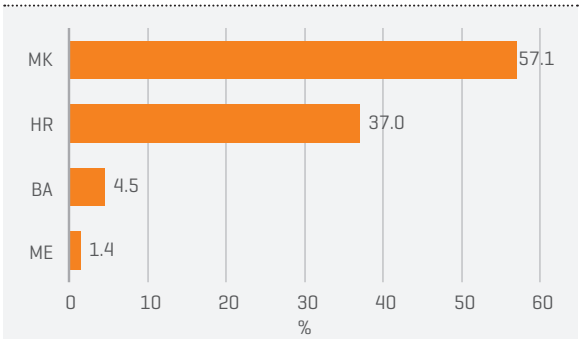

Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Analysis of the import structure shows that Serbia imports the most tobacco products from North Macedonia (57 percent) and Croatia (37 percent) (Figure 2.34).

Serbia has positive trade balances with all Western Balkan countries except Croatia. The biggest trade surplus is with Bosnia and Herzegovina (EUR 15.1 million), followed by Montenegro (EUR 11.2 million) and North Macedonia (EUR 7.5 million). The trade deficit with Croatia amounts to EUR 2.3 million (Figure 2.35).

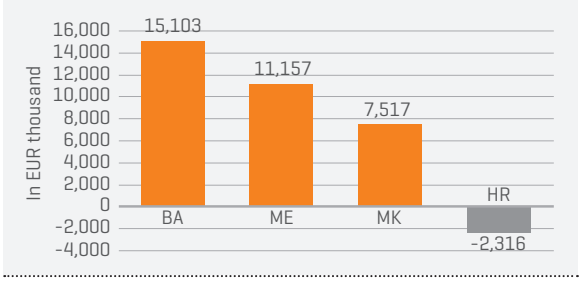
Serbia has strong comparative advantages on the Western Balkan markets in the trade of cigarettes and tobacco extracts and essences. An exception is the Croatian market, where Serbia has no comparative advantage in any group of analyzed products. In the trade of unmanufactured tobacco, Serbia has comparative advantages only on the market of Bosnia and Herzegovina (Figure 2.36).

**Figure 2.34:** Serbia's tobacco imports from the Western Balkan countries by market in 2017



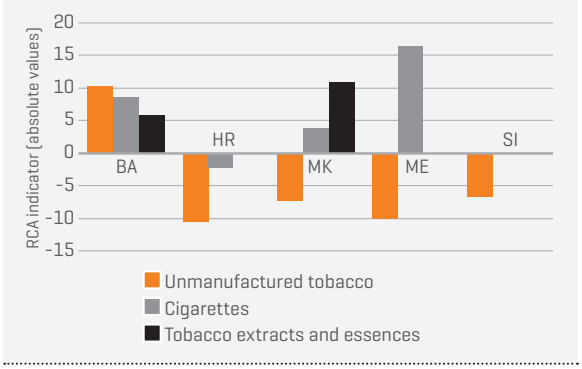

Source: Authors' calculations based on UN COMTRADE and ITC statistics.

**Figure 2.35:** Serbia's tobacco trade balance with the Western Balkan countries in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

**Figure 2.36:** RCA indicator for Serbia's tobacco trade with the Western Balkan countries




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

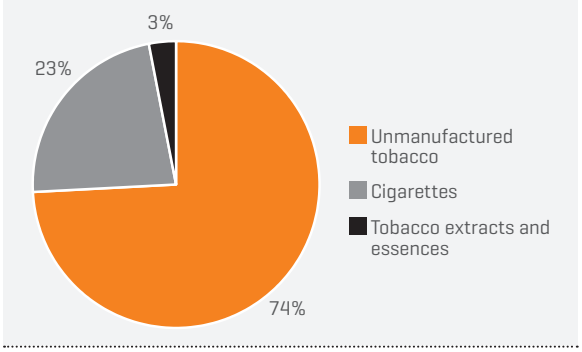
## 2.8 Slovenia

**Slovenia's volume of foreign trade in the tobacco products sector is relatively small.** Although Slovenia is a net importer in tobacco trade with the world, in tobacco trade with the Western Balkan countries Slovenia is a net exporter.

In 2017, Slovenia exported EUR 1.5 million of tobacco products to the Western Balkan countries, which represents 83 percent of Slovenia's total tobacco exports to world markets. The trade balance of Slovenia in tobacco products with the Western Balkan countries is positive, and the trade surplus in 2017 was EUR 968,000.

In the structure of Slovenian tobacco exports to the Western Balkan countries, unmanufactured tobacco accounts for the largest share (74 percent). The share of cigarettes is 23 percent, and the share of tobacco extracts and essences is 3 percent (Figure 2.37).

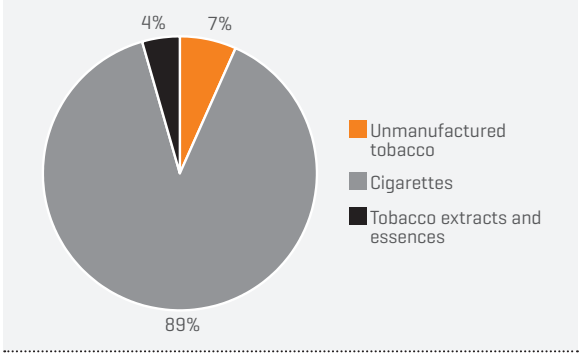
**Figure 2.37:** Slovenia's tobacco exports to the Western Balkan countries by product in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Slovenian tobacco imports from the Western Balkan countries are very small. In 2017, they amounted to EUR 550,000. In the import structure, cigarettes account for 89 percent of tobacco imports. At the same time, unmanufactured tobacco accounts for 7 percent and tobacco extracts and essences account for 4 percent of imports (Figure 2.38).

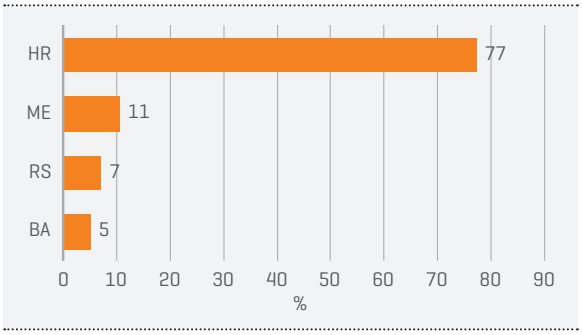
**Figure 2.38:** Slovenia's tobacco imports from the Western Balkan countries by product in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Analysis of the export structure by country indicates a high export concentration. In 2017, 77 percent of Slovenian tobacco exports ended up on the Croatian market (Figure 2.39). The other analyzed countries have lower shares in Slovenia's tobacco export structure (Montenegro 11 percent, Serbia 7 percent, Bosnia and Herzegovina 5 percent).

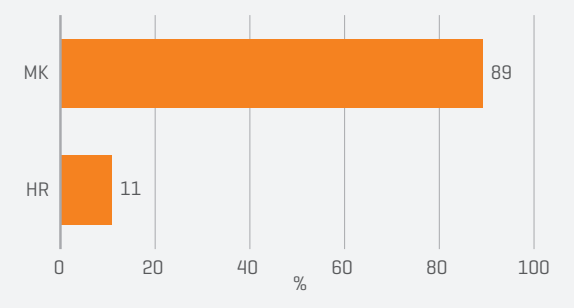
**Figure 2.39:** Slovenia's tobacco exports to the Western Balkan countries by market in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

High concentration is even more pronounced in the import structure (Figure 2.40). Among the Western Balkan countries, Slovenia imports tobacco products only from North Macedonia and Croatia. The share of North Macedonia in the import structure in 2017 was 89 percent and the share of Croatia was 11 percent.

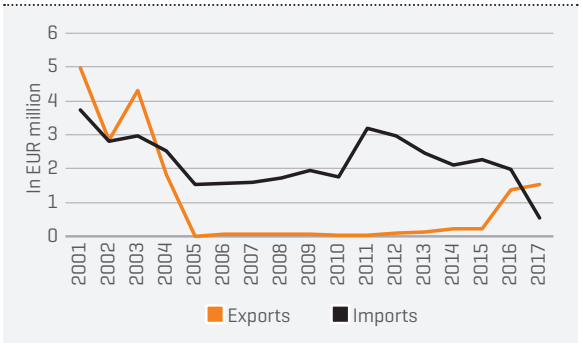
**Figure 2.40:** Slovenia's tobacco imports from the Western Balkan countries by market in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Trend analysis shows that Slovenia's position within the Western Balkan markets has changed from a net importer to a net exporter. This is the result of export growth over the last few years with a simultaneous drop in imports (Figure 2.41).

**Figure 2.41:** Slovenia's tobacco trade with the Western Balkan countries

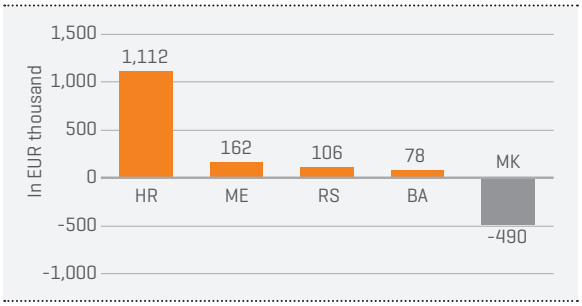



Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Slovenia has a positive trade balance with all Western Balkan countries except North Macedonia (Figure 2.42). The biggest positive balance is with Croatia (EUR 1.1 million).

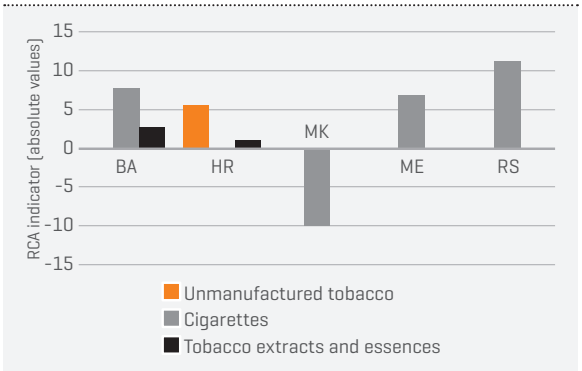
Slovenia has comparative advantages in the trade of cigarettes on the markets of Bosnia and Herzegovina, Montenegro, and Serbia. Comparative advantages are also present in the trade of tobacco extracts and essences on the markets of Bosnia and Herzegovina and Croatia. At the same time, Slovenia has comparative advantages in the trade of unmanufactured tobacco only on the Croatian market (Figure 2.43).

**Figure 2.42:** Slovenia's tobacco trade balance with the Western Balkan countries in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

**Figure 2.43:** RCA indicator for Slovenia's tobacco trade with the Western Balkan countries



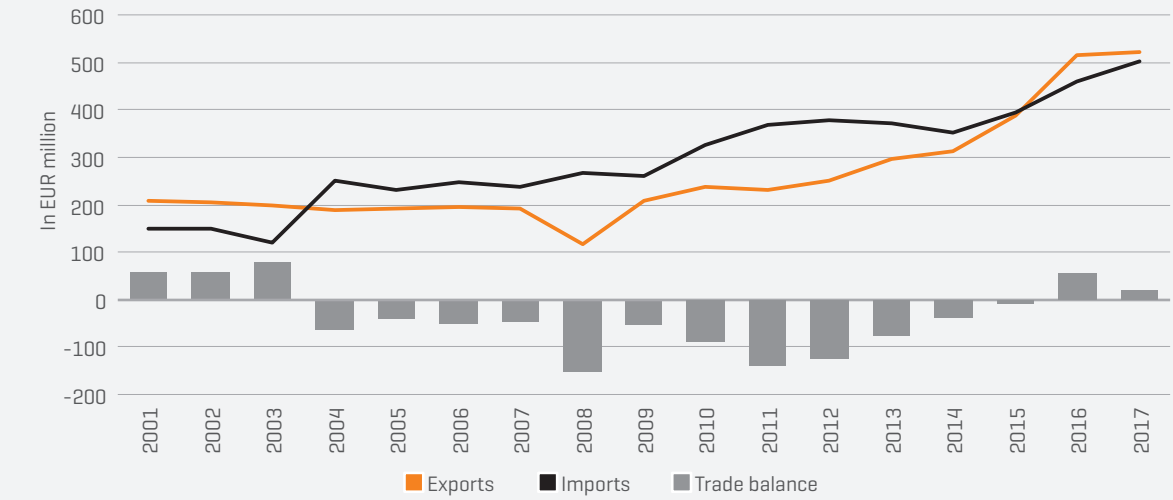

Source: Authors' calculations based on UN COMTRADE and ITC statistics.

## 2.9 Mutual trade

The Western Balkan countries cumulatively achieved tobacco exports in the amount of EUR 520.7 million in 2017. In that year, exports were slightly higher than imports, so the trade balance was positive. The trade surplus was EUR 19.7 million.

Analysis of export trends shows uneven movements over the observed period from 2001 to 2017 (Figure 2.44). After an export stagnation in the 2001–2007 period, exports declined in 2008. This could be partly explained by a drop in foreign demand in leading tobacco export destinations because of the economic crisis.

**Figure 2.44:** Tobacco trade of the Western Balkan countries – exports, imports, and trade balance



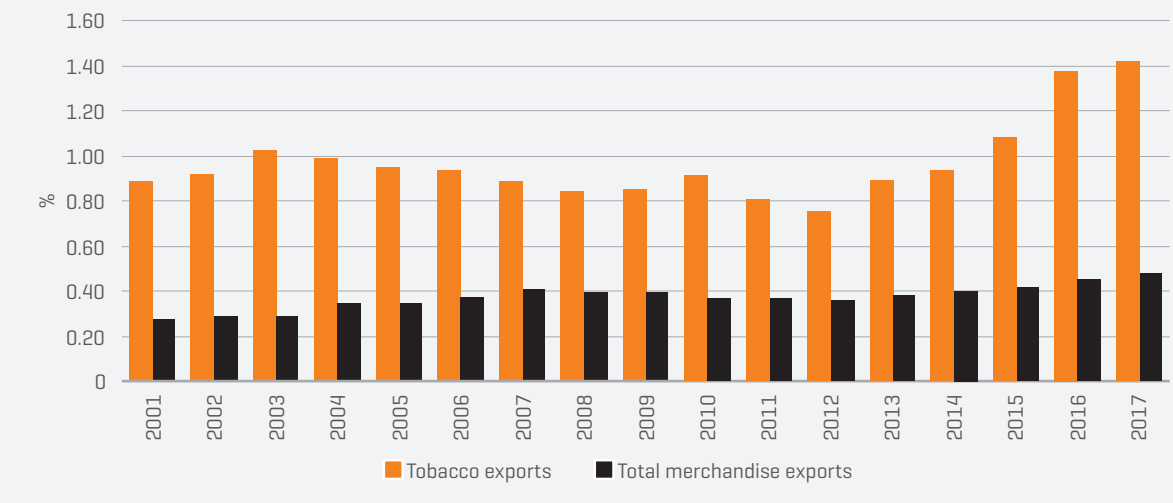

Source: Authors' calculations based on UN COMTRADE and ITC statistics.

In the 2009–2017 period, exports of tobacco products from the Western Balkan countries gradually increased. In this period, export growth was slightly faster than import growth, resulting in the positive trade balance in tobacco trade in the years 2016 and 2017.

**Tobacco export growth of the Western Balkan countries contributed to the strengthening of export competitiveness in the last few years.** The share of the Western Balkan countries in world tobacco exports increased in the 2012–2017 period from 0.75 to 1.42 percent. The biggest contribution came from Serbia, which is the largest tobacco exporter in the analyzed group of countries, followed by Croatia and North Macedonia (Figure 2.45).

If tobacco exports are viewed in the context of total merchandise exports of the Western Balkan countries, we can see that tobacco export competitiveness is significantly better than total merchandise export competitiveness.

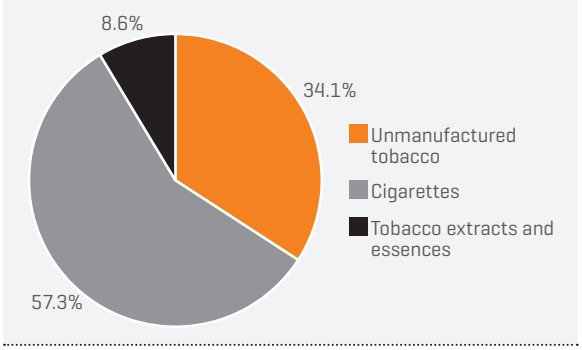
**Figure 2.45:** Share of the Western Balkan countries in world tobacco exports




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

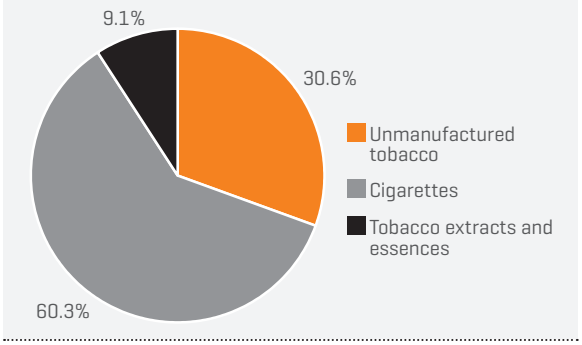

Analysis of tobacco trade structure by product, for the Western Balkan countries cumulatively, shows approximately similar export and import structures. As expected, **export and import structures are dominated by cigarettes**. Their share in exports is 57.3 percent, and in imports 60.3 percent. Apart from cigarettes, unmanufactured tobacco also plays a significant role in total tobacco exports of the Western Balkan countries. Its export share is 34.1 percent. The remaining 8.6 percent of total tobacco exports comes from tobacco extracts and essences (Figure 2.46). In the import structure, unmanufactured tobacco accounts for 30.6 percent, while tobacco extracts and essences account for 9.1 percent (Figure 2.47).

**Figure 2.46:** Tobacco export structure of the Western Balkan countries by product in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

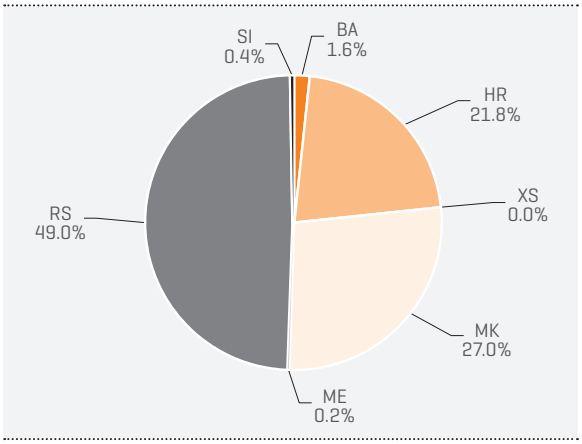
**Figure 2.47:** Tobacco import structure of the Western Balkan countries by product in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Tobacco export structure by country is characterized by strong export concentration. **Serbia, North Macedonia, and Croatia account for about 98 percent of the total tobacco exports of the analyzed countries.** The remaining 2 percent is distributed among Bosnia and Herzegovina, Montenegro, and Slovenia. Kosovo does not export tobacco or tobacco products. **The biggest tobacco exporter in the analyzed country group is Serbia**, with 49 percent of the total tobacco exports of the Western Balkan countries (Figure 2.48). Serbia is followed by North Macedonia with 27 percent of total exports, and Croatia with 22 percent. The structure of imports is not as concentrated as the export structure (Figure 2.49). In the analyzed group of countries, most tobacco products are imported by Serbia (35 percent), followed by Croatia (21 percent), Slovenia (14 percent), Kosovo (12 percent), North Macedonia (7.5 percent), Bosnia and Herzegovina (7 percent), and Montenegro (3 percent).

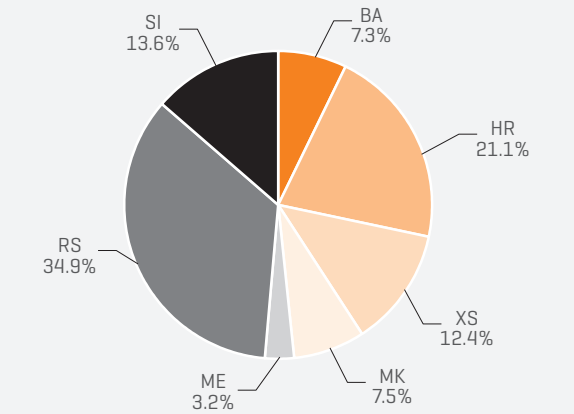
**Figure 2.48:** Tobacco export structure of the Western Balkan countries by market in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

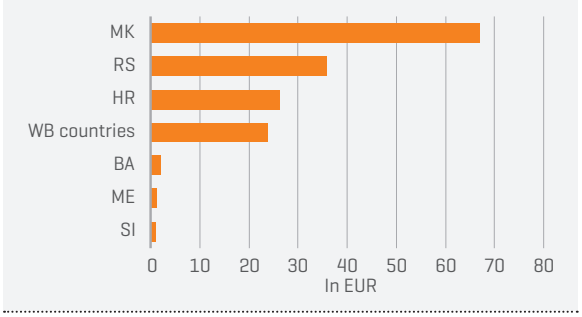
Comparative analysis of export and import values among the Western Balkan countries is standardized by the number of inhabitants. The Western Balkan countries annually realize tobacco exports in the amount of EUR 24 per capita. Among the analyzed countries, the most tobacco products per capita are exported by North Macedonia (EUR 67), followed by Serbia (EUR 36), Croatia (EUR 27), Bosnia and Herzegovina (EUR 2), Montenegro (EUR 1), and Slovenia (less than EUR 1) (Figure 2.50).

**Figure 2.49:** Tobacco import structure of the Western Balkan countries by market in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

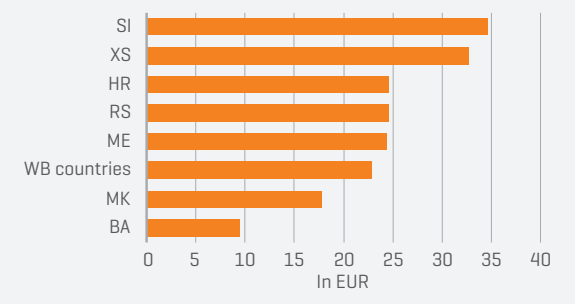
**Figure 2.50:** Tobacco exports per capita of the Western Balkan countries in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

At the same time, the Western Balkan countries import tobacco products annually in the amount of EUR 23 per capita. The biggest importer per capita is Slovenia (EUR 35), followed by Kosovo (EUR 33), Croatia (EUR 25), Serbia (EUR 25), Montenegro (EUR 25), North Macedonia (EUR 18), and Bosnia and Herzegovina (EUR 10) (Figure 2.51).

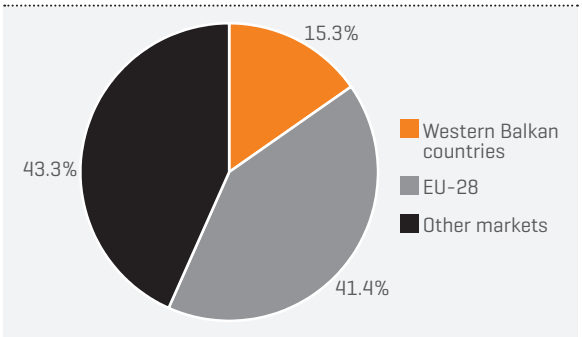
**Figure 2.51:** Tobacco imports per capita of the Western Balkan countries in 2017




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Analysis of the tobacco export structure by market shows that the analyzed countries direct 15.3 percent of their tobacco exports to the Western Balkan markets (Figure 2.52). In absolute terms, this amounts to EUR 79.7 million.

**Figure 2.52:** Tobacco export structure of the Western Balkan countries by market




Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Among the analyzed countries, the biggest exporter to the Western Balkan countries is Serbia. In 2017, Serbia exported EUR 40.1 million of tobacco products to these markets. Croatia is the second biggest tobacco exporter to the Western Balkan countries, with EUR 23 million in exports of tobacco products (Table 2.1).


**Table 2.1:** Tobacco exports of the Western Balkan countries in 2017, in EUR million

| | Western Balkan countries | EU-15 | NMS-12 | EU-28 | Other markets | World |
|---|---|---|---|---|---|---|
| Bosnia and Herzegovina | 3.520 | 1.376 | 0.087 | 1.463 | 3.345 | 8.328 |
| Croatia | 23.087 | 68.417 | 17.349 | 85.766 | 4.857 | 113.710 |
| North Macedonia | 10.923 | 64.602 | 24.452 | 89.054 | 41.045 | 141.022 |
| Montenegro | 0.542 | 0.012 | 0 | 0.012 | 0.271 | 0.825 |
| Serbia | 40.155 | 23.238 | 15.705 | 38.973 | 175.906 | 255.004 |
| Slovenia | 1.518 | 0.098 | 0.014 | 0.112 | 0.199 | 1.829 |
| Western Balkan countries | 79.745 | 157.743 | 57.607 | 215.350 | 225.623 | 520.718 |

Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Table 2.2 presents the details of tobacco trade among the analyzed Western Balkan countries: exports, imports, total trade, and trade balance. As expected, compared to other tobacco groups, **the analyzed Western Balkan countries mutually trade mostly in cigarettes**. Cigarettes account for 87.4 percent of mutual tobacco trade of these countries. **The biggest exporter of cigarettes to the Western Balkan markets is Serbia** (EUR 38.8 million). Serbia also exports the most tobacco extracts and essences to these markets (EUR 891,000). At the same time, **Croatia is the biggest exporter of unmanufactured tobacco to the Western Balkan countries** (EUR 3.6 million). **The biggest cigarette importer from the Western Balkan countries is Bosnia and Herzegovina** (EUR 28.6 million). Unmanufactured tobacco is imported the most by Serbia (EUR 3.2 million), and tobacco extracts and essences by North Macedonia (EUR 1.0 million). Among the analyzed countries, a positive trade balance in tobacco trade with the Western Balkan markets is achieved by Serbia (EUR 31.4 million), Croatia (EUR 20.6 million), and Slovenia (EUR 968,000).

Table 2.3 shows the export matrix, which measures and compares mutual tobacco trade among the analyzed countries. In comparison with other analyzed countries, the **largest mutual tobacco trade is achieved between Serbia and Bosnia and Herzegovina**.

**Table 2.2:** Tobacco trade among the analyzed Western Balkan countries, in EUR million

| Exports | | | | |
|---|---|---|---|---|
| Country | Unmanufactured tobacco | Cigarettes | Tobacco extracts and essences | Total exports |
| Bosnia and Herzegovina | 0.066 | 3.453 | 0.001 | 3.520 |
| Croatia | 3.666 | 19.049 | 0.372 | 23.087 |
| Kosovo | | | | |
| North Macedonia | 3.565 | 7.344 | 0.014 | 10.923 |
| Montenegro | 0.211 | 0.331 | - | 0.542 |
| Serbia | 0.471 | 38.793 | 0.891 | 40.155 |
| Slovenia | 1.126 | 0.345 | 0.047 | 1.518 |
| All countries | 9.105 | 69.315 | 1.325 | 79.745 |
| **Imports** | | | | |
| Country | Unmanufactured tobacco | Cigarettes | Tobacco extracts and essences | Total imports |
| Bosnia and Herzegovina | 0.417 | 28.607 | 0.309 | 29.333 |
| Croatia | 0.927 | 1.525 | - | 2.452 |
| Kosovo | | | | |
| North Macedonia | 2.396 | 14.610 | 1.074 | 18.080 |
| Montenegro | - | 10.729 | 0.005 | 10.734 |
| Serbia | 3.261 | 5.418 | 0.015 | 8.694 |
| Slovenia | 0.036 | 0.490 | 0.024 | 0.550 |
| All countries | 7.037 | 61.379 | 1.427 | 69.843 |

| Total trade | | | | |
|---|---|---|---|---|
| Country | Unmanufactured tobacco | Cigarettes | Tobacco extracts and essences | Total trade |
| Bosnia and Herzegovina | 0.483 | 32.060 | 0.310 | 32.853 |
| Croatia | 4.593 | 20.574 | 0.372 | 25.539 |
| Kosovo | - | - | - | - |
| North Macedonia | 5.961 | 21.954 | 1.088 | 29.003 |
| Montenegro | 0.211 | 11.060 | 0.005 | 11.276 |
| Serbia | 3.732 | 44.211 | 0.906 | 48.849 |
| Slovenia | 1.162 | 0.835 | 0.071 | 2.068 |
| All countries | 16.142 | 130.694 | 2.752 | 149.588 |
| **Trade balance** | | | | |
| Country | Unmanufactured tobacco | Cigarettes | Tobacco extracts and essences | Total trade balance |
| Bosnia and Herzegovina | -0.351 | -25.154 | -0.308 | -25.813 |
| Croatia | 2.739 | 17.524 | 0.372 | 20.635 |
| Kosovo | - | - | - | - |
| North Macedonia | 1.169 | -7.266 | -1.060 | -7.157 |
| Montenegro | 0.211 | -10.398 | -0.005 | -10.192 |
| Serbia | -2.790 | 33.375 | 0.876 | 31.461 |
| Slovenia | 1.090 | -0.145 | 0.023 | 0.968 |
| All countries | 2.068 | 7.936 | -0.102 | 9.902 |

Source: Authors' calculations based on UN COMTRADE and ITC statistics.

Tobacco trade of the Western Balkan countries cumulatively is characterized by export and import growth, trade surplus, strengthening of export competitiveness, and relatively high export concentration. The largest portion of the tobacco trade among the Western Balkan countries is achieved by Serbia, Croatia, and North Macedonia. These countries are also net exporters of tobacco, and Serbia contributes the most to the strengthening of export competitiveness in tobacco trade. The other analyzed countries in the region (Bosnia and Herzegovina, Kosovo, Montenegro, and Slovenia) are predominantly net importers, and Kosovo is an absolute net importer of tobacco.

Taking into account the closeness of the markets, the processes of increased openness and market integration, the presence of big tobacco companies, existing business relationships, and insight into the smoking habits and tastes of consumers, the mutual tobacco trade of the analyzed countries has significant potential for development in the upcoming period.

**Table 2.3:** Mutual trade – export matrix, in EUR million

| | Bosnia and Herzegovina | Croatia | North Macedonia | Montenegro | Serbia | Slovenia | Western Balkan countries |
|---|---|---|---|---|---|---|---|
| Bosnia and Herzegovina | - | 0.056 | 0.458 | 2.230 | 0.717 | 0.059 | 3.520 |
| Croatia | 8.910 | - | 3.599 | 0.457 | 8.588 | 1.533 | 23.087 |
| North Macedonia | 1.438 | 2.446 | - | 0 | 6.551 | 0.488 | 10.923 |
| Montenegro | 0 | 0.331 | 0.145 | - | 0.066 | 0 | 0.542 |
| Serbia | 15.495 | 0.903 | 12.478 | 11.279 | - | 0 | 40.155 |
| Slovenia | 0.078 | 1.172 | 0 | 0.162 | 0.106 | - | 1.518 |
| Western Balkan countries | 25.921 | 4.908 | 16.680 | 14.128 | 16.028 | 2.080 | **79.745** |

Source: Authors' calculations based on UN COMTRADE and ITC statistics.

# 3 The Croatian tobacco sector

**The Croatian tobacco sector includes all processes of tobacco production, starting from growing tobacco to tobacco manufacturing, and ending with the distribution of the finished tobacco product.** Table 3.1 summarizes the basic features of the enterprises involved in all levels of the tobacco sector in Croatia in 2017. Structure of all levels of the tobacco sector in Croatia in 2017 is presented in Figure 3.1.

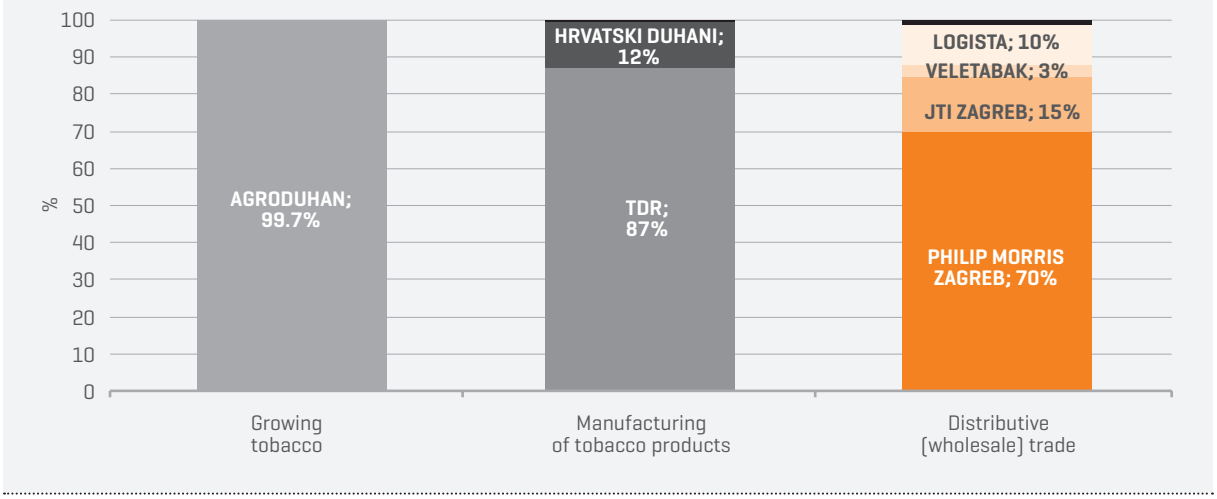
There were two enterprises registered in the tobacco growing industry in 2017, both in domestic ownership. Agroduhan holds 99.7 percent of the market, while Agroplan has the remaining portion of the market. Total revenues increased by one third on an annual level to EUR 7.2 million in 2017. At the same time, the number of employees decreased by 6.3 percent. According to the data of the Croatian Bureau of Statistics, the total production of tobacco in Croatia amounted to 9,413 tons of tobacco in 2017, increasing by 5 percent compared to the production level in 2016.[4] As one of the twelve EU countries which grow tobacco, Croatia's tobacco production accounts for roughly 4–5 percent of EU's production (European Commission, 2014a). Production quantities of raw tobacco have been stable, due to the relation between primary production and the cigarette industry (Bajo & Jurinec, 2016). In terms of tobacco variety groups, Croatia's production focuses on Burley, Virginia, and Herzegovina's tobacco. In 2014, 1,190 farmers cultivated the aforementioned variety groups (European Commission, 2014a).

**Table 3.1:** Tobacco sector in Croatia in 2017

| Level in the tobacco sector[3] | Enterprises | | | Employees | | Revenues | |
|---|---|---|---|---|---|---|---|
| | Number | Domestic ownership (in %) | Foreign ownership (in %) | Number | y/y (in %) | In EUR million | y/y (in %) |
| Tobacco growing industry | 2 | 100 | - | 84 | -6.3 | 7.2 | 34 |
| Manufacturing of tobacco products | 3 | 66.7 | 33.3 | 718 | 8.5 | 183.5 | -17 |
| Distributive (wholesale) trade of tobacco products | 18 | 66.7 | 33.3 | 464 | -0.9 | 466.5 | -10 |

Sources: Financial Agency dataset and authors' calculations.

**Figure 3.1:** Structure of the tobacco sector in Croatia in 2017




Sources: Financial Agency dataset and authors' calculations.

[3] The classification of enterprises within the different subsectors corresponds to the classification of Financial Agency data.

[4] For more information see Croatian Bureau of Statistics (2018).

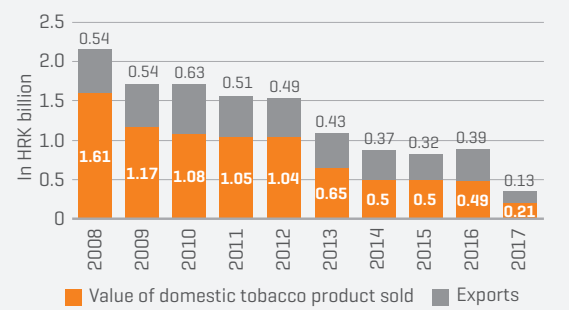
Farmers delivering dried tobacco leaf to manufacturer, Pitomača, November 2017.

Author: Jelena Mihalj.

Tobacco manufacturing includes three enterprises, one of which is foreign-owned TDR, acquired by British American Tobacco in 2015. The total market in 2017 accounted for EUR 183.5 million, a 17 percent decrease compared to 2016. As far as market structure is concerned, the foreign-owned TDR takes 87 percent of the market, while the rest of the market is divided between Hrvatski duhani (12 percent) and Tvornica duhana Udbina (1 percent). The number of employees rose by 8.5 percent on an annual level, mostly on the back of TDR, which increased the number of its employees by 12.7 percent in 2017. In the last ten years, value of the sold tobacco product[5] has been following a downward trend, dropping by 84 percent in 2017 compared to 2008 (Figure 3.2).

The share of exports in the value of the sold product has been quite stable in the 2008-2017 period and it accounted for 39 percent in 2017. The fall in the value of sold tobacco product could be partially attributed to an increase in excises and harmonization of excises with the EU legislation (Bajo & Jurinec, 2016).

**Figure 3.2:** Value of the tobacco product sold in the period 2008–2017




Source: Croatian Bureau of Statistics.

There were 18 enterprises involved in the distributive (wholesale) trade of tobacco products in Croatia in 2017, which employed an overall number of 464 people. Foreign-owned enterprises amount to one-third of all enterprises in the distributive sector and employ half of the overall number of employees. Total revenues amounted to EUR 466.5 million in 2017, decreasing by 10 percent compared to 2016. In 2017, Philip Morris Zagreb captured 70 percent of the market. The rest of the market was divided among JT International Zagreb (15 percent), Logista (10 percent)[6], Veletabak (3.2 percent), Imperial Tobacco Zagreb (0.2 percent), and BAT Hrvatska (0.04 percent). The distributive tobacco sector is dominated by global players, although some reshuffling has recently taken place. Specifically, in 2016, BAT Hrvatska had a 14 percent share of the total market[7], while Philip Morris Zagreb and JT International Zagreb accounted for 60 percent and 11 percent, respectively.

[5] Based on PRODCOM Survey on Industrial Production in 2017 (Croatian Bureau of Statistics, 2019). Reporting units in the PRODCOM Survey on Industrial Production are all trade companies and other legal entities and natural persons and parts thereof employing ten and more persons that were engaged in industrial production and/or services (own account production or production on contract basis) in reference annual period, as defined in the National Classsification of Activities (NKD) for 2007 (see https://narodne-novine.nn.hr/clanci/sluzbeni/2007_06_58_1870.html).

[6] Logista is a distributor of Japan International Tobacco Products.

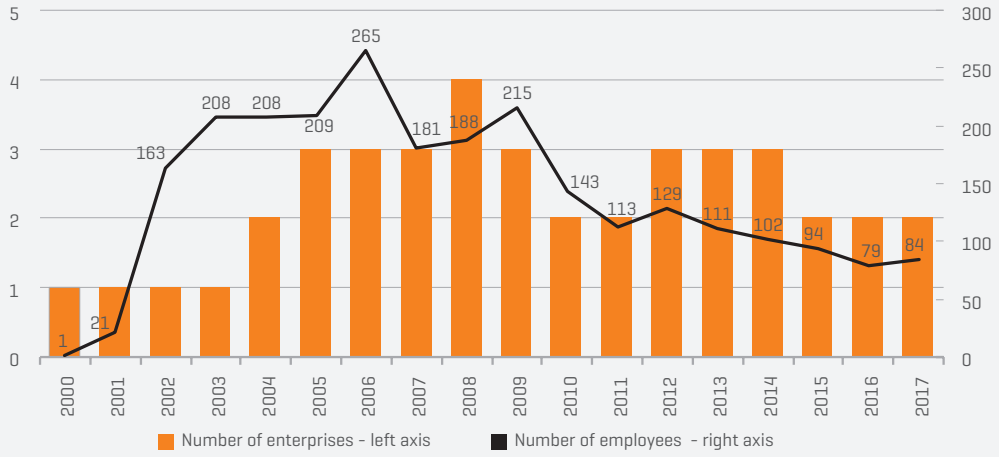
[7] BAT Hrvatska is in liquidation.


## 3.1 Tobacco growing industry

A more detailed analysis of all three subsectors in the period between 2000 and 2017 shows that there was a maximum of four enterprises involved in the growing tobacco sector in 2008. As expected, a decline in the number of enterprises in the period after 2008 was followed by a fall in the number of employees. Total revenues peaked in 2009, reaching EUR 10.2 million (Figure 3.3).

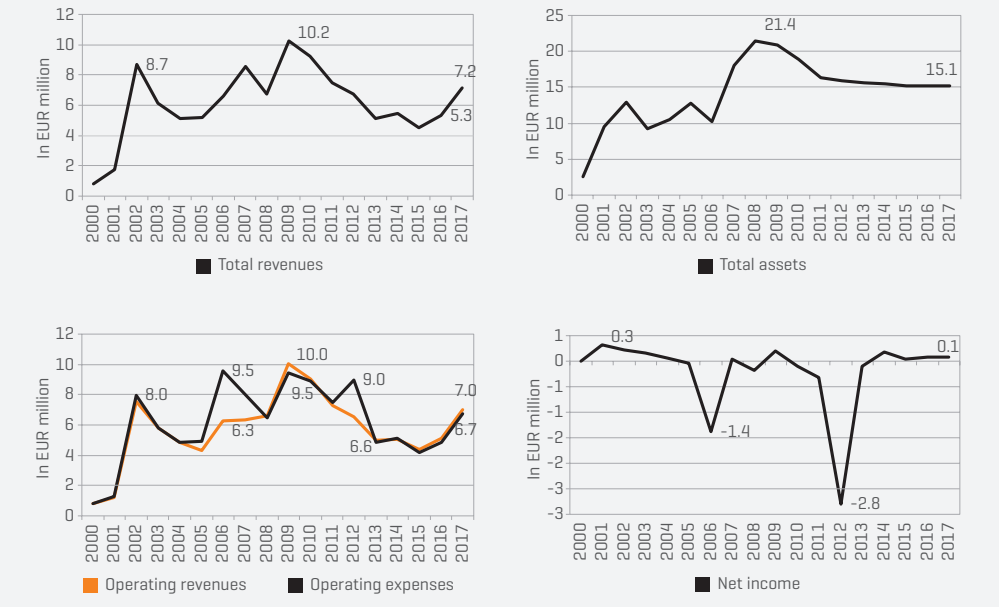
In the period between 2009 and 2015, revenues were following a downward trend, turning to growth in 2016 (Figure 3.4). Net income was in negative territory in the period between 2010 and 2013. In the period between 2014 and 2017, the growing tobacco sector was generating a modest, but positive net income.

**Figure 3.3:** Number of enterprises and employees in tobacco growing industry in Croatia




Sources: Financial Agency dataset and authors' calculations.

**Figure 3.4:** Tobacco growing industry in Croatia – key financials in 2000–2017



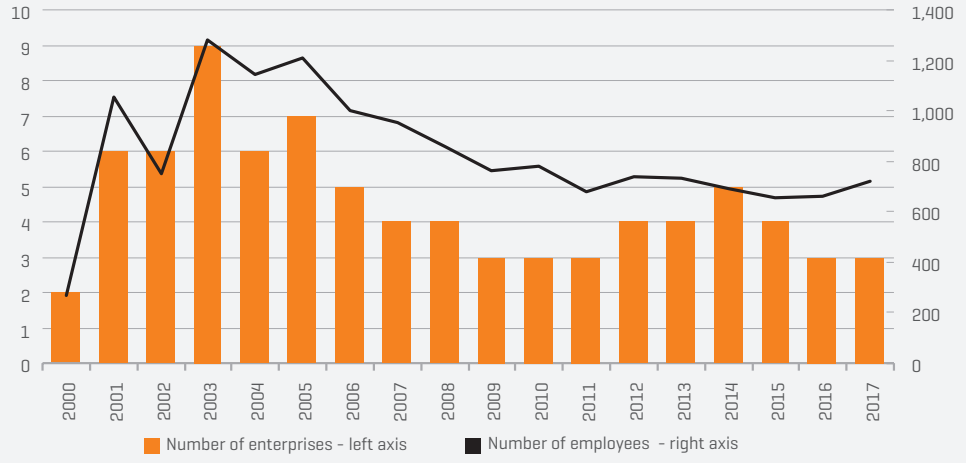

Sources: Financial Agency dataset and authors' calculations.

## 3.2 Manufacturing of tobacco products

As far as manufacturing of tobacco products is concerned, the number of enterprises varied between two and nine in the observed period, ending with two enterprises in the sector in 2017 (Figure 3.5). Manufacturing of tobacco products employed the highest number of people in 2003 (1,279). Downsizing was reported in the sector in the period between 2012 and 2015. New recruiting has been reported after 2015, mostly on the back of TDR.

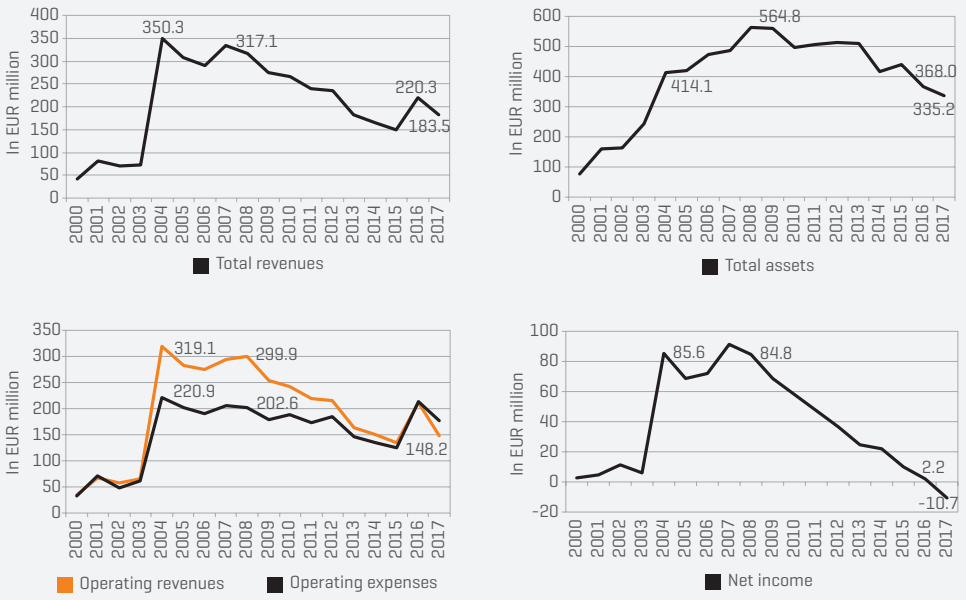
Total revenues followed a similar pattern (Figure 3.6). The peak in total revenues occurred in 2004, while decreasing was reported in the period between 2007 and 2015. After increasing in 2016, the total revenues took the opposite trend in 2017. Although all three market players registered a fall in revenues in 2017 on an annual level, TDR total revenues decreased by almost 20 percent, dragging down total revenues of the sector. Net income has mostly been falling since 2007, ending up in negative territory in 2017 on the back of TDR's loss of EUR 10.7 million.

**Figure 3.5:** Number of enterprises and employees in manufacturing of tobacco products in Croatia




Sources: Financial Agency dataset and authors' calculations.

**Figure 3.6:** Manufacturing of tobacco products in Croatia – key financials in the period 2000–2017



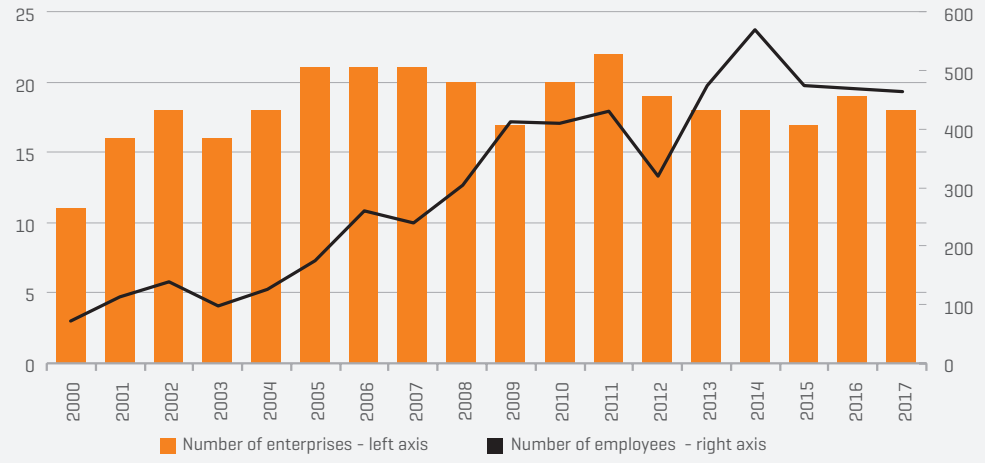

Sources: Financial Agency dataset and authors' calculations.

## 3.3 Distributive (wholesale) trade of tobacco products

The number of enterprises included in the distributive (wholesale) trade of tobacco products ranged from 11 in 2000 to 22 in 2011 (Figure 3.7). Although the number of employees in the distributive trade of tobacco products in Croatia increased 6.5 times in the observed period, the number started to shrink in 2015, falling by almost 100 people in 2017 compared to 2014.

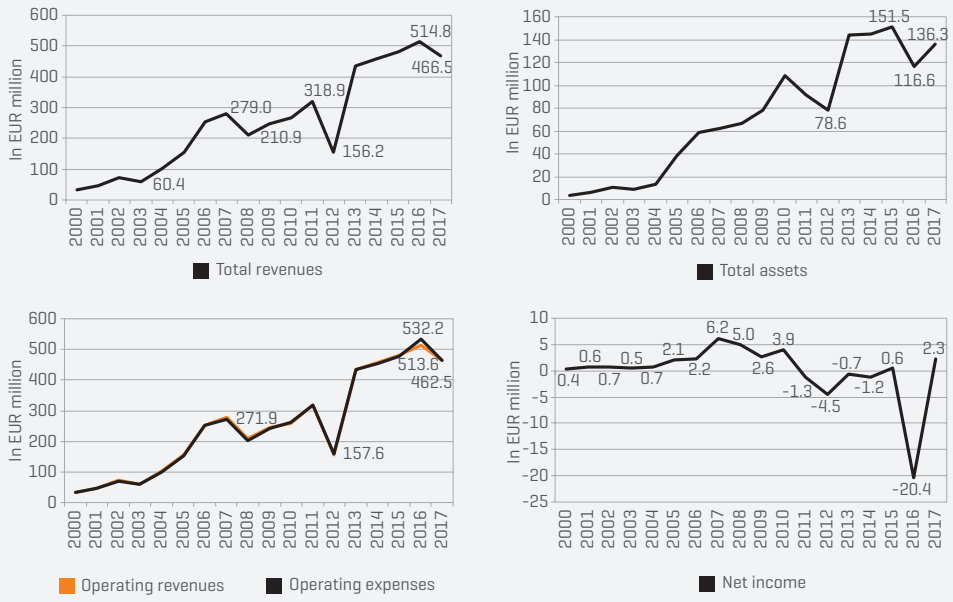
Total revenues followed an upward trend throughout the observed period, with slowdowns in 2003, 2008, 2012, and 2017. Total revenues surged to the record level of EUR 514.8 million in 2016, starting to fall in 2017, dropping by 9.4 percent on an annual level (Figure 3.8). Net income was growing in the period between 2000 and 2007 when it started to fall. In 2011, the enterprises in the distributive (wholesale) trade of tobacco products generated a loss. Net income stayed in negative territory until 2017, with a slight surge in positive territory in 2015.

**Figure 3.7:** Number of enterprises and employees in distributive (wholesale) trade of tobacco products in Croatia




Sources: Financial Agency dataset and authors' calculations.

**Figure 3.8:** Distributive (wholesale) trade of tobacco products in Croatia – key financials




Sources: Financial Agency dataset and authors' calculations.

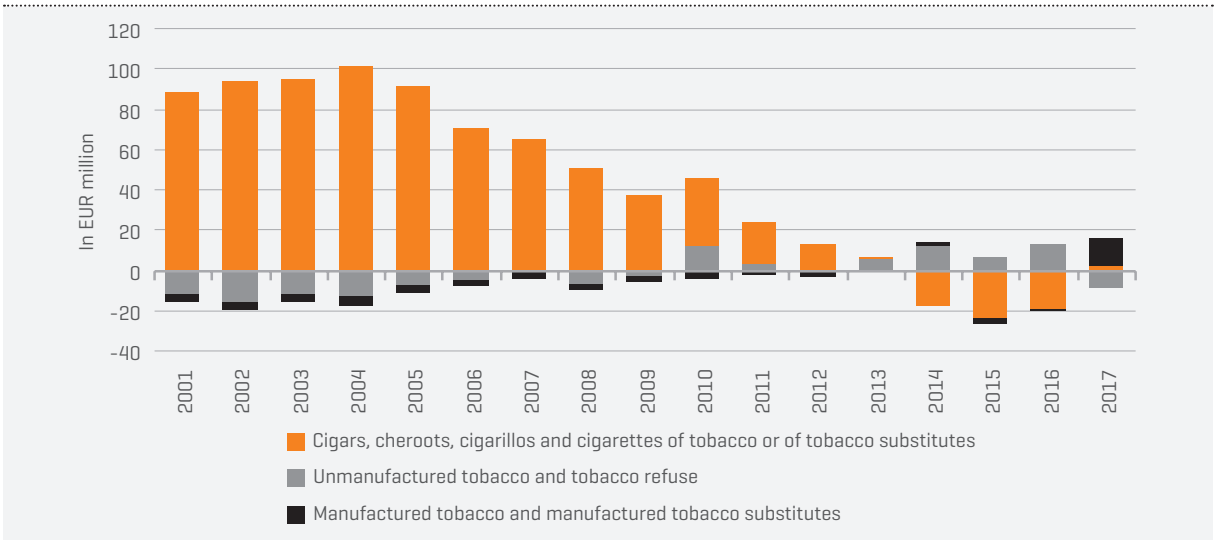
The loss in 2016 reached the record of EUR 20.4 million on the back of the loss of BAT Hrvatska, which amounted to EUR 22.04 million.

Trade balance for tobacco products is presented in Figure 3.9. Croatia was an overall net exporter of tobacco products in the period 2001–2013 and in 2017, and was importing more tobacco products compared to exports in the period 2014–2016. Regarding different categories of tobacco products, in the period 2001–2013, Croatia was a net exporter of cigars, cheroots, cigarillos, and cigarettes of tobacco and tobacco substitutes. The trend reversed in 2014–2016, while in 2017 positive net balance was again reported in the trade of cigars, cheroots, cigarillos, and cigarettes of tobacco and tobacco substitutes. As far as trade of unmanufactured tobacco and tobacco refuse is concerned, there was a trade deficit in the period 2001–2009. On the other hand, Croatia was a net exporter of unmanufactured tobacco and tobacco refuse in the period 2014–2016, turning to a net importer in 2017. In 2017, Croatia's trade balance of tobacco product reversed to positive on the back of net exports of manufactured tobacco and manufactured tobacco substitutes.

Croatian tobacco sector is facing many challenges, due to excises and illicit trade, and some of the challenges, such as the effects of illegal trade in tobacco products, are discussed in the next chapters. As explained further in this study, Croatia applies EU legislation on taxation of tobacco products, so that the price level is significantly higher compared to other neighboring economies. As far as taxes are concerned, it should be noted that harmonization with EU regulations as part of Croatia's EU accession process resulted in many changes of taxes and excises. Specifically, there was a change in the level and structure of excises which resulted in an increase in the price of tobacco products (Bajo & Jurinec, 2016).

Additionally, since Croatia's tobacco sector is dominated by global players, it is crucial to analyze the local sector in light of global developments. The major players, such as British American Tobacco, Philip Morris and Japan Tobacco, are facing many risks related to the implementation of smoke-free legislation on the global level, rise in the prices of tobacco products due to taxes, subsidies, trade tariffs and other policies, as well as a sluggish sale of alternative smoking products, such as e-cigarettes (nicotine vapor) and heat-not-burn. In line with the study conducted by Levy, Rodríguez-Buño, Hu, and Moran (2014), more than 53 million people on the global level have stopped smoking as a result of the implementation of tobacco regulations between 2008 and 2014. Even the countries of the developing world, which were perceived as the only reliable future growth area for the industry, are increasing the tobacco taxes and putting bans in place (Williams, 2018). These challenges have lately been mirrored in the developments of the stocks prices of major tobacco multinational companies (Figure 3.10). Most of the global

**Figure 3.9:** Croatia tobacco trade balance per product in 2000–2017

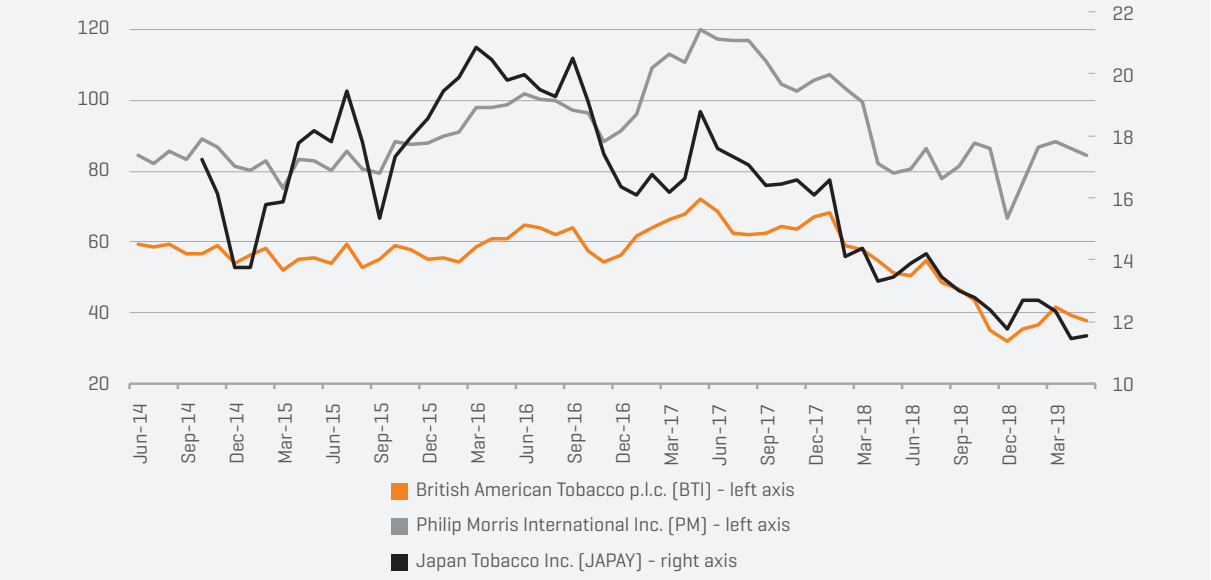



Source: Authors' calculations based on UN COMTRADE and ITC statistics.


tobacco companies experienced a sharp fall in share prices towards the end of 2018, even in periods when the broader market hit highs.

To summarize, the Croatian tobacco sector includes enterprises involved in all stages of tobacco production, from growing of tobacco to production and distribution. Croatia is one of the twelve EU countries which grow tobacco, **contributing to the overall EU unmanufactured tobacco production with a share of 4–5 percent**. A major market player is domestic-owned Agroduhan, while small farmers are also involved in growing tobacco. Production of tobacco products is dominated by TDR, which has been in the hands of British American Tobacco since 2015. After the change in the ownership structure, TDR increased the number of employees. At the same time, revenues were quite volatile, ending in 2017 at the same level that the company's revenues occupied in 2013. Overall net income of manufacturers of tobacco products has mostly been falling since 2007, ending up in negative territory in 2017 on the back of TDR's loss of EUR 10.7 million. Distributive trade of tobacco products included 18 enterprises in 2017, one-third of which is foreign-owned. Philip Morris Zagreb captured 70 percent of the EUR 466.5 million market in 2017, while the rest of the market is mostly distributed among other global players, such as JT International Zagreb, Imperial Tobacco Zagreb, and BAT Hrvatska. Having in mind the growing **importance of global players in the production and distribution of tobacco products and export orientation of Croatia's tobacco sector**, it is important to analyze the sector in terms of both local and global risks, such as tax changes and related price pressures, illegal trade, implementation of smoke-free legislation on the global level, and inadequate success of tobacco alternative products. Tax and excise duties policies play here a major role.

**Figure 3.10:** Share prices of major global players in 2014–2017 on a monthly level




Source: Bloomberg.

# 4 Excise duties on cigarettes in the Western Balkan countries

## 4.1 Comparison of excise duty systems in the region

This analysis presents parallel systems of the rates of excise duties on cigarettes in all of the previously analyzed countries. The analysis has taken into account all the amendments to laws and bylaw provisions that came into force by the end of September 2018. For some countries, in particular North Macedonia and Kosovo, estimated and assumed values have been taken into consideration, as the increase in excise duties was in some form defined in previous years, and there are no new acts defining the rates of excise duties. It is therefore assumed that the excise duties actually increased in the way defined in the earlier legal provisions.

According to the amendments to the 2013 Law on Excise Duty in North Macedonia, the following increases were defined:

- from July 1, 2014 to July 1, 2015 - the rates of specific and minimal excise duties on cigarettes increased by 0.15 Macedonian denars per piece per year
- from July 1, 2016 to July 1, 2023 - the rates of specific and minimal excise duties on cigarettes shall increase by 0.20 Macedonian denars per piece per year
- from July 1, 2014 to July 1, 2023 - the amount of excise duty for cut tobacco shall increase by 50 denars per kilogram per year.[8]

Accordingly, the excise duty has been increasing on an annual level, so that estimation of the amount of excise duty on cigarettes for 2018 was made.

When it comes to Kosovo, in December 2015, the government of Kosovo adopted a decision determining the rates of excise duties on cigarettes by 2019.[9] Assuming that the said decision has remained in force, since no other decision has been adopted to put this one out of force, we made an estimate of the rate of excise duty on cigarettes for 2018.

In the Serbian legislation[10], excise duties on cigarettes are defined for a pack of 20 cigarettes. The comparative overview was based on the excise duty per 1,000 pieces.

Almost all of the observed countries are currently using the system of combined taxation of cigarettes, namely a combination of the specific excise duty estimated for 1,000 cigarettes and the proportional excise duty which is calculated according to the retail price of cigarettes. Since the proportional excise duty is defined as a percentage of the total retail price of cigarettes, including the excise and VAT, it is clear that it is nominally lower in a country where the specific excise duty is lower. Since most of these countries do not have publicly available data on quantities and prices of cigarettes released into circulation on the markets on their own territories, a detailed analysis based on the rates of the total excise duties cannot be carried out. It is possible to conduct an analysis of the specific excise duties, but that analysis alone, without a combination with the proportional excise duties, would not give comparable results.

However, it is possible to carry out an analysis of the rates of minimum excise duties. The minimum excise duty is applied to those cigarettes for which the sum of specific and proportional excises is lower than the legally defined minimum excise duty. Since Kosovo has no defined minimum excise duty, for the purpose of the analysis, the rate of the minimum excise duty is calculated as the amount of the specific excise duty on cigarettes.

For countries that do not use the euro as their official currency, their national currencies are converted into euro according to the middle exchange rate of their central banks. The current rates of excise duties on cigarettes in all of the analyzed countries are shown in Table 4.1.

Since it is impossible to state the rate of the total excise duty (specific + proportional), due to the lack of necessary information, the rates of minimum excise duties on cigarettes are shown graphically.

[8] See the Law at http://www.customs.gov.mk/images/documents/zakoni/zakon-akcizi/ZAKON_ZA_AKCIZITE.pdf

[9] See the decision at http://kryeministri-ks.net/sr/dokumenti/?kategoria=odluke-sa-sednice-vlade&viti=2015#038;viti=2015

[10] See the legislation at http://www.slglasnik.com/

**Table 4.1:** The rates of excise duties on cigarettes in the Western Balkan countries

| | Bosnia and Herzegovina | Croatia | Kosovo | North Macedonia | Montenegro | Slovenia | Serbia |
|---|---|---|---|---|---|---|---|
| Specific excise duty, in national currency | 75 KM | 310 KN | 45 EUR | 2103 MKD | 30 EUR | 71.3238 EUR | 3459.5 RSD |
| Specific excise duty (per 1,000 cigarettes), in EUR | 38.22 | 41.66 | 45 | 34.29 | 30 | 71.3238 | 29.21 |
| Minimum excise duty (per 1,000 cigarettes), in national currency | 130 KM | 696 KN | 45 EUR | 2303 MKD | 63.6 EUR | 111 EUR | 7367 RSD |
| Minimum excise duty (per 1,000 cigarettes), in EUR | 66.24 | 93.53 | 45 | 37.55 | 63.6 | 111 | 62.21 |
| Proportional excise duty, percentage of the retail price | 42.0% | 34.0% | 0.0% | 9.0% | 32% | 22.6% | 33.0% |

Note: Status on October 15, 2018.

Source: Authors' calculations based on national legislative sources.

**The minimum excise duties on cigarettes are the lowest in North Macedonia and Kosovo.** As can be seen, Slovenia and Croatia have the highest minimum excise duties on cigarettes (Figure 4.1). Since the EU legislation prescribes that the minimum excise duty on cigarettes must be at least EUR 90 per 1,000 cigarettes, these two countries, being EU members, were required to determine the excise duties in that range.

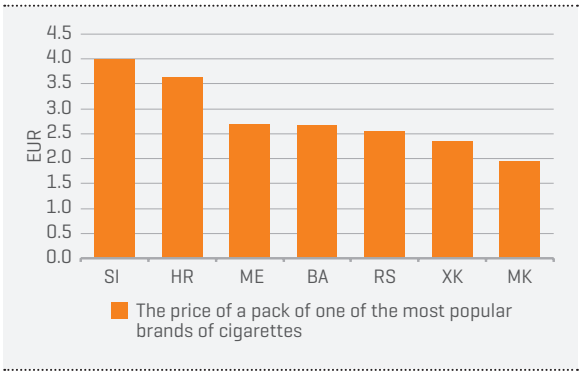
**Figure 4.1:** The rates of minimum excise duties on cigarettes in the Western Balkans countries


Note: Status on October 15, 2018.

Source: Authors' calculations based on national legislative sources.

In accordance with the change of rates of excise duties on cigarettes in the analyzed countries, the prices of cigarette packs are changing as well. Therefore, for the same type of cigarettes one would need to pay the most in Slovenia and the least in North Macedonia. It is evident that a pack of one of the most popular brands of cigarettes is the most expensive in Slovenia, while in North Macedonia it is two times cheaper (Figure 4.2). Thus, **the difference in the prices of a pack of cigarettes in the analyzed countries accurately follows the difference in the rates of excise duties**.

**Figure 4.2:** The price of a pack of one of the most popular brands of cigarettes



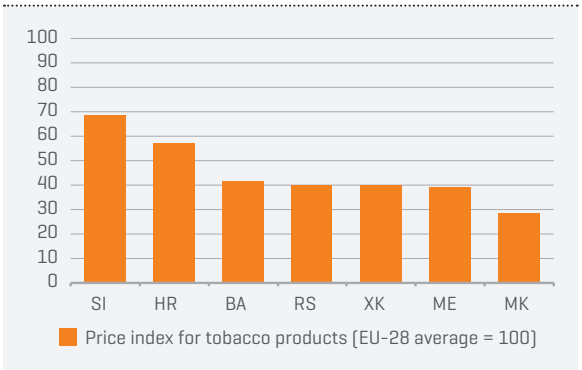

Source: Numbeo database, https://www.numbeo.com/cost-of-living.

The data from Numbeo database are compared with the Eurostat data on the price indices for tobacco products in individual countries compared to the EU average. The EU average is calculated as a weighted average of national price indices, weighted by national account expenditures, corrected by the difference in price levels.

**The prices of tobacco products in all of the observed Western Balkan countries are far lower than the EU**

**average.** Slovenia, as the most expensive analyzed country, is at 68.6 percent of the EU-28 average (Figure 4.3).

**Figure 4.3:** Price indices for tobacco products in the Western Balkan countries in 2017




Note: EU-28 average = 100.

Source: Eurostat.

**Bosnia and Herzegovina, Serbia, and Montenegro have been gradually increasing the rates of excise duties on cigarettes**, but they are not yet close to meeting the EU requirements. These countries **will have to reach the amount of EUR 90 for the minimum excise duty** by the time they enter the EU or several years after the entrance, depending on what will be agreed in the process of accession negotiations.

Moreover, most Western Balkan countries are, at this moment, unable to raise the rates of excise duties on cigarettes, due to the general economic situation in their countries. With each increase in excise duty on cigarettes, governments in the Western Balkan countries are facing strong public disapproval and pressures. For example, the government in Montenegro was forced to make a decision to reduce the excise duties on cigarettes in 2018.

## 4.2 Future adjustments to EU excise policies

Further increase in cigarette prices due to the adjustments of excise policies to the standards required by EU regulations will, in the long run, bring similar developments to all Western Balkan countries. Redistribution of price categories of cigarettes, which happened in Croatia, is likely to occur in the rest of the analyzed countries as well, and the redistribution within the market will be followed by an increase in cigarette prices in all price categories. With such developments, the motivation to buy cigarettes on the gray market, which occurs with the import of cheaper cigarettes from neighboring countries in any of the observed countries in which cigarette prices are currently much higher than in a country where cigarettes come from to the gray market, will decrease. However, these results are expected in the mid- to long-term perspective. Survey results showed that a very large number of respondents who buy cigarettes on the gray market would not cease to do so as long as prices of cigarettes on illegal markets were lower than prices on legal markets. This means that motivation to buy on the gray market will always exist.

Furthermore, even though excise duties on cigarettes and other tobacco products grow in Bosnia and Herzegovina, Serbia, Montenegro, North Macedonia, and Kosovo, they will still likely be below those in Slovenia or Croatia. Although Slovenia and Croatia, as EU members, have met the levels of excise duties on tobacco products required by EU legislation, excise duties on tobacco products in these two countries continue to grow, due to tax and health policies. Excise duties in Slovenia and Croatia are still lower than in more economically developed EU countries, so that prices of a cigarette pack are lower than in France, Germany, the UK, etc.

Table 4.2 includes all data on the excise systems of EU countries ending with July 1, 2018. All EU member states gradually increase excise duties on tobacco products, following primarily their health policies and efforts to reduce the consumption of tobacco products by making them more expensive.

**Table 4.2:** Rates of excise duties on cigarettes in EU countries

| | Specific excise (per 1000 cigarettes) | | | | Ad valorem excise in % | VAT in % | Ad valorem excise + VAT | Total tax (incl VAT) | Current MPPC per 1000 cigarettes (only for the purpose of comparison - not applied for calculation) | | WAP per 1000 cigarettes (pursuant to Art. 8(2) Dir. 2011/64/EU *)) | | Excise yield* | Minimum excise duty (Article 8 (6) Directive 2011/64/EU) | Overall minimum excise duty* (Specific +ad valorem (excl. VAT)) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NatCurr | EUR | as % of WAP | As % of total tax (specific +ad valorem +VAT) | (as % of TIRSP) | (as % of TIRSP) | (as % of TIRSP) | (as % of WAP) | NatCurr | EUR | NatCurr | EUR | EUR per 1000 cigarettes of the WAP | EUR per 1000 cigarettes | as % of WAP |
| AT | - | 58 | 24.36 | 31.02 | 37.5 | 16.67 | 54.17 | 78.53 | - | - | - | 238.1 | 147.2875 | 144.34 | 61.86 |
| BE | - | 64.5991 | 21.97 | 27.69 | 40.04 | 17.36 | 57.4 | 79.37 | - | 325 | - | 293.9787 | 182.3082 | 182.3082 | 62.01 |
| BG | 109 | 55.7317 | 43.43 | 51.03 | 25 | 16.67 | 41.67 | 85.09 | 245 | 125.2684 | 251 | 128.3362 | 87.8157 | 90.5001 | 68.43 |
| CY | - | 55 | 25.7 | 33.97 | 34 | 15.97 | 49.97 | 75.67 | - | 195 | - | 214 | 127.76 | 121.5 | 59.7 |
| CZ | 1,460 | 56.1646 | 33.95 | 43.36 | 27 | 17.36 | 44.36 | 78.31 | 4,300 | 165.4164 | 4,300 | 165.4164 | 100.8271 | 101.1733 | 60.95 |
| DE | - | 98.2 | 34.84 | 48.06 | 21.69 | 15.97 | 37.66 | 72.49 | - | 285.71 | - | 281.88 | 159.3398 | 155.05 | 56.53 |
| DK | 1,182.5 | 158.8997 | 58.9 | 73.72 | 1 | 20 | 21 | 79.9 | 2,081.25 | 279.6702 | 2,007.81 | 269.8017 | 161.5977 | - | 59.9 |
| EE | - | 69.5 | 39.15 | 45.62 | 30 | 16.67 | 46.67 | 85.82 | - | 177.5 | - | 177.5 | 122.75 | 113.38 | 69.15 |
| EL | - | 82.5 | 40.29 | 47.04 | 26 | 19.35 | 45.35 | 85.64 | - | 210 | - | 204.78 | 135.7428 | 117.5 | 66.29 |
| ES | - | 24.7 | 10.93 | 13.78 | 51 | 17.36 | 68.36 | 79.28 | - | 247.5 | - | 226 | 139.96 | 131.5 | 61.93 |
| FI | - | 58 | 17.32 | 19.53 | 52 | 19.35 | 71.35 | 88.67 | - | - | - | 334.9 | 232.148 | 248 | 69.32 |
| FR | - | 59.9 | 17.6 | 20.69 | 50.8 | 16.67 | 67.47 | 85.07 | - | 400 | - | 340.33 | 232.7876 | 261 | 68.4 |
| HR | 310 | 41.3499 | 25.91 | 32.42 | 34 | 20 | 54 | 79.91 | 1,350 | 180.072 | 1,196.64 | 159.6158 | 95.6193 | 92.8371 | 59.91 |
| HU | 16,200 | 52.0164 | 28.96 | 38.5 | 25 | 21.26 | 46.26 | 75.22 | - | - | 55,936 | 179.6044 | 96.9175 | 93.758 | 53.96 |

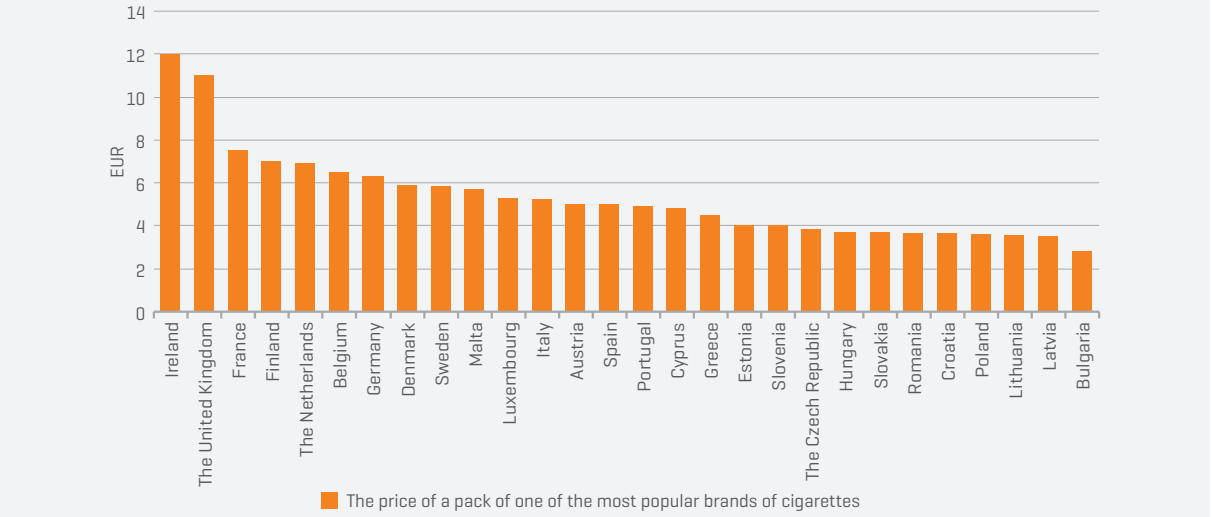


| | Specific excise (per 1000 cigarettes) | | | | Ad valorem excise in % | VAT in % | Ad valorem excise + VAT | Total tax (incl VAT) | Current MPPC per 1000 cigarettes (only for the purpose of comparison - not applied for calculation) | | WAP per 1000 cigarettes (pursuant to Art. 8(2) Dir. 2011/64/EU *)) | | Excise yield* | Minimum excise duty (Article 8 (6) Directive 2011/64/EU) | Overall minimum excise duty* (Specific +ad valorem (excl. VAT)) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NatCurr | EUR | as % of WAP | As % of total tax (specific +ad valorem +VAT) | (as % of TIRSP) | (as % of TIRSP) | (as % of TIRSP) | (as % of WAP) | NatCurr | EUR | NatCurr | EUR | EUR per 1000 cigarettes of the WAP | EUR per 1000 cigarettes | as % of WAP |
| IE | - | 309.04 | 61.38 | 68.87 | 9.04 | 18.7 | 27.74 | 89.12 | - | 600 | - | 503.5 | 354.5564 | 344.07 | 70.42 |
| IT | - | 19.2759 | 8.1 | 10.5 | 51. | 18.03 | 69.03 | 77.13 | - | 250 | - | 238 | 140.6599 | - | 59.1 |
| LT | - | 59 | 37.11 | 46.7 | 25 | 17.36 | 42.36 | 79.46 | - | - | - | 159 | 98.75 | 96 | 62.11 |
| LU | - | 18.8914 | 8.22 | 11.84 | 46.65 | 14.53 | 61.18 | 69.4 | - | 210 | - | 229.89 | 126.1351 | 116 | 54.87 |
| LV | - | 74.6 | 46.63 | 55.52 | 20 | 17.36 | 37.36 | 83.99 | - | 143.99 | - | 159.98 | 106.596 | 109.2 | 66.63 |
| MT | - | 107 | 40.74 | 51.31 | 23.4 | 15.25 | 38.65 | 79.4 | - | 275 | - | 262.63 | 168.4554 | 165 | 64.14 |
| NL | - | 173.1 | 55.94 | 71.45 | 5 | 17.36 | 22.36 | 78.29 | - | - | - | 309.45 | 188.5725 | 188.99 | 60.94 |
| PL | 206.76 | 47.9366 | 29.93 | 37.4 | 31.41 | 18.7 | 50.11 | 80.04 | - | - | 690.76 | 160.1502 | 98.2398 | 98.2403 | 61.34 |
| PT | - | 94.89 | 42.46 | 55.75 | 15 | 18.7 | 33.7 | 76.16 | - | 220 | - | 223.5 | 128.415 | 134.65 | 57.46 |
| RO | 337.727 | 73.6142 | 42.59 | 58.7 | 14 | 15.97 | 29.97 | 72.56 | 800 | 174.3755 | 792.95 | 172.8388 | 97.8116 | 94.8771 | 56.59 |
| SE | 1,540 | 160.3248 | 53.16 | 71.68 | 1 | 20 | 21 | 74.16 | - | - | 2,896.86 | 301.5835 | 163.3406 | - | 54.16 |
| SI | - | 71.3238 | 40.64 | 50 | 22.61 | 18.03 | 40.64 | 81.28 | - | 175.5 | - | 175.5 | 111. | 111 | 63.25 |
| SK | - | 61.8 | 38.21 | 49.07 | 23 | 16.67 | 39.67 | 77.88 | - | 160 | - | 161.73 | 98.9979 | 96.5 | 61.21 |
| UK | 217.23 | 245.6797 | 55.63 | 62.65 | 16.5 | 16.67 | 33.17 | 88.8 | - | - | 390.5 | 441.6422 | 318.5507 | 316.8401 | 72.13 |

Notes: **TIRSP** = tax included retail selling price (retail selling price, all taxes included); **MPPC** = most popular price category; **WAP** = weighted average price. National currencies have been converted into EUR using the ECB exchange rate on the first working day of October 2017. As on July 1, 2018).

Source: Excise Duty Tables, Part III - Manufactured Tobacco; European Commission 2018 (http://ec.europa.eu/taxation_customs/index_en.htm).

**Figure 4.4:** The price of a pack of one of the most popular brands of cigarettes in EU countries

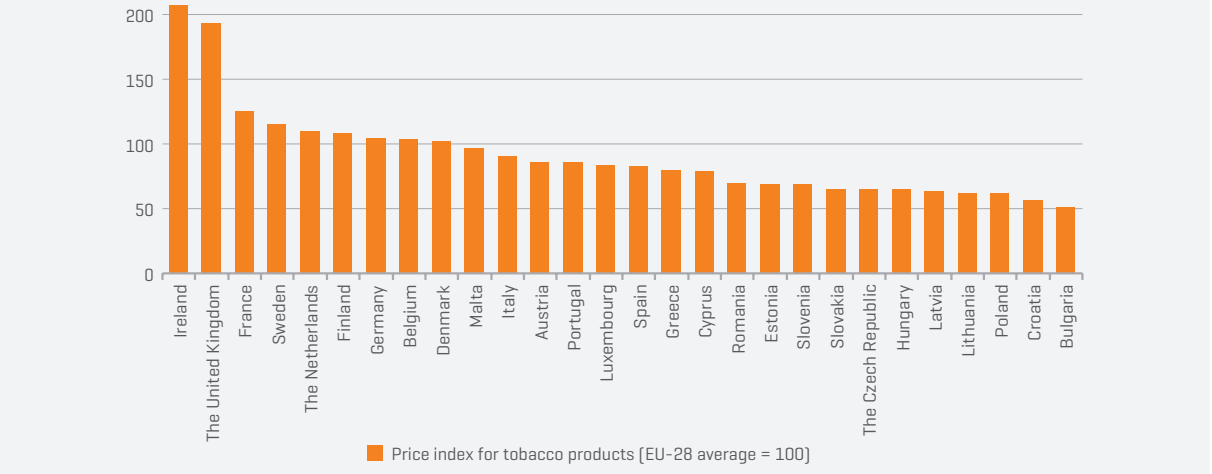



Source: Numbeo database, https://www.numbeo.com/cost-of-living.

Rates of excise duties on tobacco products, primarily cigarettes, directly affect the cigarette prices on the EU market. An overview of the price levels of a pack of one of the most popular brands of cigarettes in EU countries clearly shows how differences in the excise systems affect the prices of cigarettes on the market (Figure 4.4).

In countries with a higher living standard and higher purchasing power, the excise system, and consequently prices of cigarettes, is adjusted to the general economic situation in the country. Prices of tobacco products are the highest in Ireland and the UK, followed by France, Sweden, the Netherlands, and Finland, while Germany, Belgium, and Denmark are the closest to the EU average[11]. When it comes to the prices of tobacco products, all other EU countries are below the EU average. According to the price level index, Croatia and Bulgaria have the lowest prices of tobacco products (Figure 4.5).

**Figure 4.5:** Price indices for tobacco products in EU countries in 2017




Note: EU-28 average = 100.

Source: Eurostat.

[11] The EU average is calculated as a weighted average of national price indices, weighted by national account expenditures, corrected by the difference in price levels.

If Eurostat data on average prices of tobacco products are compared with the data from Numbeo database on prices of a specific cigarette brand, it can be seen that the order of countries, as well as relative prices, are equivalent. In countries where prices of a specific brand of cigarettes are the highest, the average price level of tobacco products is the highest, while Bulgaria has the lowest price of a specific cigarette brand and the lowest average price of tobacco products. There is some discrepancy in several countries that have similar prices, which could mean that the price of a specific cigarette brand in a country is lower or higher compared to the average prices of tobacco products in that country.

### 4.3 Excise duties and the gray market

An increase in the prices of tobacco products has an impact on the growth of the gray market. However, if cigarette prices increase gradually, it is less likely that a large outflow of cigarette consumption from the legal into the illegal sphere will occur. Moreover, **if the market structure does not deteriorate and prices of all brands of cigarettes go up by the same amount, it is also less likely that there will be a significant growth of tobacco products on the gray market**.

Each country's excise policy can affect trends in the tobacco market, that is, with the right **combination of the specific and proportional excises**, it is possible to direct the market towards an equal increase of prices for all cigarette brands, and thus the market stays uninterrupted.

However, it is very difficult to find the right combination of these two excises, since a strong reliance on any of these types of excises has both positive and negative effects. The choice of the excise duty will depend on the government's goals and priorities in a particular country, and a stronger emphasis on one of these two excises may influence the state budget revenues, as well as the availability of tobacco products.

The **specific excise duty is the same for all brands of cigarettes**, regardless of their price. Strong reliance on the specific excise duty leads to a narrower distribution of cigarette prices on the market, which means that price differences between individual categories of cigarettes are reduced. The increase of **specific excise duties puts a greater burden on the lower price category of cigarettes**. Therefore, this category is put under pressure to increase its prices, and it comes closer to more expensive cigarettes.

As cheaper cigarettes are mostly consumed by lower-income smokers, **a rise in prices of lower price cigarettes could result in shifting of these smokers to the gray market**, since those cigarettes will become too expensive for the category of consumers that consumed them earlier.

Moreover, with the increase in the specific excise duty, producers tend to increase the prices above the increase in excise duty, since this excise can be fully transferred to the buyer. Producers, thus, gain extra profit and have an incentive to increase their production. This excise duty is favorable for the tobacco industry as it generates less tax burdens than the proportional excise duty.

**An increase in the proportional (ad valorem) excise duty does not have such a big impact on lower price cigarettes, since the ad valorem excise duty increases as the retail cigarette prices rise.** Accordingly, an increase in the ad valorem excise duty puts a greater **burden on the higher price cigarettes**, and, as it is already included in the final product price, producers do not need to increase the price of cigarettes above the increase in excise duty. An increase in the proportional part of excise duty on cigarettes is a good way to increase the state budget revenues. Therefore, it is to be expected that a country which needs more money in its budget will not reduce the proportional excise duty on cigarettes.

However, the proportional excise duty has its negative effects as well. Excessive reliance on only the proportional part of excise duty on cigarettes can make consumers choose cheaper cigarettes. It can also encourage the producers to manufacture lower price cigarettes and, consequently, cigarettes of lower quality.

It is very difficult to find a combination of the specific and proportional excise duties which would result in positive effects of both types of excise duties and would affect all market players in the best possible way.

It is certain that each increase in the prices of cigarettes on the legal market affects the developments on the gray market, but the question is to what extent. Theoretically, if all price categories of cigarettes increase by the same


amount, there is no market distortion and no significant shifts in consumption from more expensive to cheaper cigarettes. Moreover, consumers still have the same number of different price categories of cigarettes at their disposal, so they can decide which ones they will consume without a significant need to look for substitutes on the markets of other countries or on the gray market.

All of the above mentioned refers to a gradual increase in cigarette prices, while any considerable change in retail prices of cigarettes will lead to a growth of the gray market, regardless of the distribution of specific and proportional components of excise duty. However, an increase in the prices of cigarettes on the markets in Bosnia and Herzegovina and Serbia could reduce the gray market in Croatia, as there would no longer be reasons strong enough to buy cigarettes in those countries. Also, the main way in which consumers obtain tobacco products from the gray market is through resellers on the streets. As prices of cigarettes increase in our neighboring countries, the difference between costs and benefits of purchasing cigarettes on these markets decreases, so that cigarette smugglers have less and less reasons to expand the gray market and resell cigarettes on the territory of the Republic of Croatia. However, the availability of illegal products, the length of the state border, and penalty provisions on illegal trade are also significant for the development of the gray market of tobacco products. The analysis of the conducted survey results found that the lowest percentage of purchase of tobacco products on the gray market is present in Slovenia, where cigarette prices are the highest.

If we look at the development of the legal market of cigarettes in Croatia, it is evident that the total amount of cigarettes on the Croatian market, for which the excise duties were paid, decreased by about 15 percent between 2010 and 2017. This was the result of an increase in the prices of cigarettes, followed by an increase in excise duties, as excise duties grew due to harmonization of Croatia's legislation with the EU legislation.

Furthermore, the legal markets in Slovenia and Serbia shrank with the increase in excise duties and cigarette prices, while this shrinking of the legal market is particularly present in Montenegro and Bosnia and Herzegovina. In Montenegro, the legal market of cigarettes decreased by 50 percent, while shrinking of the legal market in Bosnia and Herzegovina is even bigger. This is especially evident in domestic cigarettes' sale. As mentioned earlier, out of 3,000 surveyed citizens of Bosnia and Herzegovina, about 20 percent stated that they bought cigarettes and tobacco products on the gray market. When looking at the official data of the Indirect Taxation Authority of Bosnia and Herzegovina, it is apparent that the official market of tobacco products, with the increase in cigarette prices, has decreased by more than 50 percent. Although it is highly unlikely that all those people stopped consuming tobacco products, it is obvious that the gray market in Bosnia and Herzegovina is one of the most developed ones on the territory of the Western Balkans, while the survey data probably under-represented the size of the gray market in this country.

According to the Indirect Taxation Authority of Bosnia and Herzegovina, the highest number of cigarettes on the gray market in Bosnia and Herzegovina comes from Serbia and Montenegro, but there are also illegal factories in Bosnia and Herzegovina. As the prices of cigarettes in Serbia are still lower than in Bosnia and Herzegovina, there is an interest in the illegal import of cigarettes and their sale on the territory of Bosnia and Herzegovina, either through resellers on the streets or through other illegal means. The most important in all of this is the fact that prices of cigarettes coming to the gray market are even twice as low as prices in the legal sale. The "green routes" are most often used for the illegal import of cigarettes and tobacco products into the territory of Bosnia and Herzegovina. These are large border areas between countries where there is no border control. However, except for the cigarettes entering the market from the neighboring countries, a certain number of cigarettes are being produced in illegal factories in Bosnia and Herzegovina. The Indirect Taxation Authority of Bosnia and Herzegovina carried out actions in which large quantities of cigarettes were confiscated, together with tobacco cutters.

The intensive anti-smuggling activities of the Croatian customs resulted in a significant increase of confiscated cigarettes and cut tobacco (Table 4.3). The number of cigarettes confiscated in 2018 – almost 18 million cigarettes - was two and a half times higher than the number reported for 2017. Likewise, the quantity of illicit tobacco confiscated in 2018 was one and a half times larger than the quantity confiscated in 2017.

**Table 4.3:** Confiscated illicit tobacco products in Croatia

| Confiscated tobacco products | 2018 | 2017 | 2018/2017 |
|---|---|---|---|
| Cigarettes (pcs.) | 17,694,859 | 7,177,251 | 246.5 |
| Tobacco (kg) | 76,338.10 | 48,418.97 | 157.7 |

Source: Customs of the Republic of Croatia, 2019.

Confiscated unmanufactured tobacco intended for sale on the gray market, Pitomača, Croatia, December 2018.

Photo: Croatian customs.

All of the analyzed countries that are harmonizing their excise legislation with the EU regulations saw similar developments: raising prices, dissatisfaction of smokers, reduction of the legal market, and rise of the illegal market. Moreover, almost all of the observed countries have a neighboring country in which prices of cigarettes are lower and there is, thus, a possibility of significant expansion of the gray market. The only exception is North Macedonia where the excise duties on cigarettes are still low enough not to pose a significant pressure on the legal market. What is more, North Macedonia has the lowest excise duties and the lowest cigarette prices of all the countries in its surrounding, so that there is no reason to buy cigarettes abroad. However, in North Macedonia, the prices of cigarettes are growing steadily, and the country is consequently facing possible public dissatisfaction and turning towards the gray market, but what is different is that Macedonians buy cigarettes on the gray market within their own country and do not need to go abroad.

Any further increase in excise duties on tobacco products, primarily cigarettes, will put an additional pressure on the legal market and open up the space for the growth of the gray market. The ultimate goal of all of the observed countries is to adopt the EU legislation on taxation of tobacco products. However, as there are differences in cigarette prices among all EU countries, and as each country continues to increase excise duties on tobacco products in order to reduce the number of smokers, there will still be differences in cigarette prices on the markets of the observed countries of the Western Balkans. The differences will decrease over time, but they will still exist, and together with them, there will always exist motives to buy cigarettes on an illegal market.

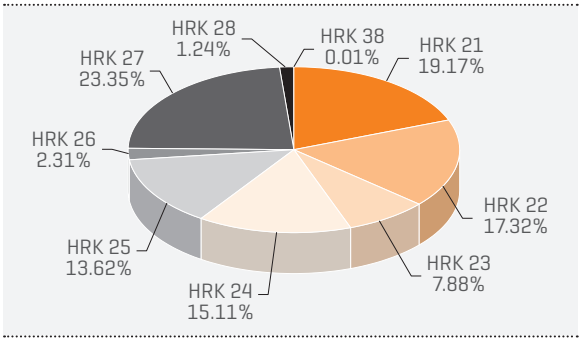
The simple example of a gap between the price of cut tobacco on the gray market and the price of cigarettes on the legal market in Croatia illustrates how high is the motivation of smokers to shift from legal to the gray market and to substitute one type of a tobacco product with a completely different one. It can be argued that substitution within the same type of tobacco product (e.g. one brand of legally sold cigarettes with a similar brand of illicit cigarettes) is even more likely to happen.

On the gray market in Croatia, 1,000 g of cut tobacco costs about 125 kuna, and this quantity is sufficient to roll and stuff about 1,000 pieces of homemade cigarettes. This quantity equals 50 cigarette packs that would otherwise cost about 1,250 kuna. This very simplified calculation shows the huge price gap of tobacco products between the legal and the gray market. **Cigarettes made from illegally bought cut tobacco are ten times cheaper than the same quantity of industrially manufactured cigarettes sold in regular stores in Croatia.**

What is also interesting is the structural development of the legal market of tobacco products in Croatia (Figure 4.6). At the end of 2017, out of the total cigarette market, the minimum excise duty was paid for 36.5 percent of cigarettes. Compared to that, at the end of 2013, the minimum excise duty was paid for 46.7 percent of cigarettes, and this percentage gradually decreased over the years. By increasing the specific and minimum excise duties, the lowest price categories of cigarettes gradually merged into one. Therefore, in 2013, regardless of whether the price of a pack of cigarettes was 15 or 20 kuna, or any other amount in between, a single minimum excise duty in the amount of 11.34 kuna per pack had to be paid for all of the packs. Consequently, all cigarette price categories that existed at the time were gradually approaching the highest one. As the specific and minimum excise duties


are defined in the absolute amount per 1,000 cigarettes and can easily be fully transferred onto the consumer, producers are inclined to make use of this advantage and increase the prices of cigarette packs above the excise duty increase. This is another reason why the number of price categories of cigarettes should be reduced.

**Figure 4.6:** Tobacco market in Croatia in 2017




In 2013, there were 19 different price categories of cigarettes on the cigarette market in Croatia, while in 2017 this number decreased to ten. As the excise duties on tobacco changed, prices of cigarettes in Croatia changed as well. With a constant increase in the minimum excise duty, the share of those cigarettes that had the lowest price was reduced, and accordingly, the percentage of the consumption of cigarettes for which the minimum excise duty was being paid dropped. In 2018, the consumption of those cigarettes continued to reduce.

In conclusion, no matter how close Bosnia and Herzegovina, Serbia, Montenegro, North Macedonia, and Kosovo come with the rates of excise duties and their prices to the systems that exist in Slovenia and Croatia, it is very likely that they will not reach them even in the long run. Namely, the general state of the economy will not allow for equal prices of tobacco products in all of the analyzed countries. However, as excise duties will rise faster in countries where the EU standards have not yet been reached, the price differences of tobacco products in some countries will eventually be reduced, though they will probably never disappear. Reducing the price differences between particular countries will result in the reduced attractiveness of the cross-border gray market for tobacco products, but illegal tobacco factories could become even more appealing, so this segment of the gray market, which not only brings an economic but also a health risk, has a great potential for development.

## 4.4 Estimation of price elasticity of tobacco demand

An individual overview of tobacco excise systems in analyzed countries of the region, together with the comparative analysis of excise systems provided within this study, enables us to understand how differences in the features of the excise systems may influence the formation of tobacco smuggling routes and the flow of smuggled tobacco. In addition, these analyses allow for a deeper understanding of cross-border tobacco purchasing habits of people living near the border.

However, in order to delineate and possibly quantify the effect that changes in the features of excise system exhibit on the tobacco (and especially cigarette) consumption, one would have to estimate the price elasticity of tobacco products' demand. Estimating this elasticity requires having access to the data on prices and quantities of cigarettes sold by individual brands. In addition, in order to ensure representativeness of the model and to estimate the cross-elasticity of tobacco products' demand, the data on prices of other cigarette brands which are considered to be viable substitutes should also be available. These data are, however, not available from public sources. Databases on household consumption, which contain individual data on consumption, keep a record of prices and quantities of sold cigarettes, but do not contain data on cigarette brands, which means that if we were to use them for the estimation, we could not follow changes in quality and consumption of cigarette brands by individual consumers. All other possible data sources are even more inadequate. The ideal source in this case would be the tobacco company which has the data on prices and quantities. However, these data were not available upon our request.

In order to circumvent that problem, we tried to use the data available from the Customs Administration of the Republic of Croatia. We decided to follow that approach because, in this way, we were able to obtain the data on quantities and prices of individual cigarette brands. The downside of such an approach is the fact that we do not really study the moment when cigarettes were

actually purchased, but instead study the moment when the tobacco company purchased an excise stamp. This means that even though we can establish the retail price of cigarettes, we cannot know in which month, quarter or even year the cigarettes were actually sold. We can assume that the cigarettes with a certain stamp were sold either within the same month of acquiring the stamp or that they were sold up to a year after the moment of acquiring the stamp. This means that any time series methods that are usually used for estimating the price elasticity of demand cannot point to the exact moment of demand as the demand takes place. The other downside of using this approach is the fact that tobacco companies in Croatia frequently change attributes of specific features of cigarette brands (such as the number of cigarettes in a package, the composition of tobacco in the cigarette, the exact name of the package, etc.) in order to attenuate the effects of changes in tobacco excise features. This in turn means that even if we were able to collect the data needed for the price elasticity estimation directly from tobacco producers, we would still face the problem of shortness of data series, due to frequent changes in the portfolio of cigarette brands. This problem is unfortunately also reflected in the data available from the Customs Administration of the Republic of Croatia.

Even though the data collected from the Customs Administration are only second best to the data that can be obtained from tobacco companies, we decided to use them in order to estimate the price elasticity of demand. We had monthly data from January 2013 until September 2018 for two premium brands of cigarettes. We also had the data for the weighted average price of cigarettes for the entire Croatian market, as well as the data for total quantities sold on the market of all cigarette brands. In order to estimate the price elasticity of tobacco demand, we used standard regression analysis and co-integration method. Unfortunately, both approaches were not successful in determining the elasticity value, due to abovementioned inconsistency of the purchase timing and timing of obtaining an excise stamp. This means that obtained estimates were very volatile and not statistically significant. We also tried to aggregate the monthly data to the quarterly frequency and then we re-estimated the models. Aggregating monthly data for a given quarter within one quarter ensures that the timing inconsistency problem is partly resolved, as some of the excise stamp acquisitions took place within the same quarter in which consumers purchased cigarettes with these stamps. This approach, as expected, provided smoother elasticity estimates, but elasticity coefficients were again not statistically significant and often had the wrong sign (plus sign when it was expected to be negative or vice versa).

In order to ensure relevant estimates of price elasticity of tobacco demand and in turn provide a more precise estimate of the effect of excise changes on the overall tobacco demand and illicit trade flows, we propose a more intensive future collaboration between the academic sector and tobacco industries in the region. This is the only reliable way to ensure data of sufficient quality that may yield precise estimates of consumers' reactions to increases in tobacco excises which are partly or fully transferred to the retail price of tobacco. Other publicly available data unfortunately cannot provide all relevant information needed to empirically estimate price elasticities in an accurate way.

# 5 Unofficial economy in Western Balkan countries: Size and consequences

Illegal trade and gray market activity are certainly part of the unofficial economy related to undeclared work and unregistered income, and, consequently, tax avoidance and other detrimental impacts on the national economy. The next chapter presents the size of the unofficial economy in Western Balkan countries, as well as estimated negative effects that tobacco gray market has on public revenues and the official economy.

## 5.1 Definition of unofficial economy and methods of measurement

Size, methods of measurement, factors behind, and consequences of unofficial economy are broadly explored in the economic literature. Except for unofficial economy, many alternative terms are used in previous studies: underground economy, non-observed economy, hidden economy, shadow economy, informal economy, black economy, unregistered income, undeclared work, etc. Definitions of unofficial economy (UE) rarely give an explanation of what UE actually is, but more often talk about what "is absent, insufficient or missing with regard to work in the shadow economy relative to work in the formal economy" (Williams & Schneider, 2016, p.2). The most general definition describes unofficial economy as income derived from productive activities, which are not covered in official economic data (Feige, 1990). It usually covers total unregistered productive economic activities: market-based production of goods and services, whether legal or illegal, that escape detection in the official estimates of GDP (Smith, 1994; Feige, 1989; Schneider, 1994, 2003, 2005; Frey & Pommerehne, 1984). A broader definition, used in many studies, is taken from Del'Anno: "those economic activities and the income derived from them that circumvent or otherwise avoid government regulation, taxation or observation" (Del'Anno, 2003, p. 4). However, some studies explicitly limit their research to legal activities. As Schneider and Buehn define: "the shadow economy includes all market-based legal production of goods and services that are deliberately concealed from public authorities for the following reasons:

- to avoid payment of taxes, e.g. income taxes or value added taxes,
- to avoid payment of social security contributions,
- to avoid certain legal labor market standards, such as minimum wages, maximum working hours, safety standards, etc., and
- to avoid complying with certain administrative procedures, such as completing statistical questionnaires or other administrative forms" (Schneider & Buehn, 2016, p. 2).[12]

In order to provide a common methodological framework used in compiling official macroeconomic statistics, Eurostat, Organization for Economic Cooperation and Development (OECD), and other international institutions, which develop standard national accounts methodology, presented a coherent set of classifications describing the components of UE. Both the European System of National and Regional Accounts (European Union, 2013) and OECD (2002) use the term non-observed economy when describing the lack of exhaustiveness of macroeconomic indicators, due to hidden economy. In the European System of National and Regional Accounts (European Union 2013, p. 310, paragraph 11.26), the non-observed economy is defined as value of production activities that are not directly observed but should, in principle, be included within the national accounts production boundary. In the Eurostat approach, total non-observed economy is systematically classified in seven mutually exclusive categories, marked from N1 to N7 (Nadim, 2007). However, the size of non-observed economy is usually distributed into only four main categories (Gyomai & Van de Ven, 2014):

(a) Illegal activities where the parties are willing partners in an economic transaction (marked as N2 in Eurostat approach).

(b) Underground activities where the transactions themselves are not against the law, but are unreported to avoid official scrutiny; includes N1 – underground producer and N6 – deliberate misreporting income;

(c) Activities of informal sector, where no business records are kept. These are typically non-monetary activities for the household benefit (N3 producers not

[12] This definition is actually copied from the definition of underground economy, which is part of the overall non-observed economy (United Nations 1993, p. 153).

obliged to register) or small-scale market producers not required to be registered (N4 and N5 depending on the legal status of informal producer).

(d) Statistical deficiencies related to inadequate statistical data sources or inappropriate data processing (N7). If observed in previous period, statistical deficiencies are expected to be eliminated in future period by regular revision of statistical practices applied by national statistical offices.

Estimates of the non-observed economy should be included in the official data on gross domestic product (GDP) published by national statistics offices and should cover three parts: illegal, underground, and informal part of UE.

In the economic literature, numerous methods for estimating underground economy have been developed. Methodological backgrounds, common features, advantages, and shortcomings of different methods have been discussed in detail by Schneider (2011) and Smith & Wied-Nebbeling (1986). In the recent period, some methods are abandoned due methodological or empirical weakness and UE is usually estimated with the use of three different approaches: direct methods based on a survey, multiple indicators-multiple causes (MIMIC) approach, and Eurostat approach. A synthetic estimate based on the combination of different approaches could provide a more reliable estimate of the size and trends in unofficial economy. This chapter combines survey results for Western Balkan economies, estimates based on MIMIC approach and estimates produced by national statistics offices according to the Eurostat approach[13].

The estimate of the unofficial economy in this study combines the following approaches:

- estimates of undeclared work are derived by direct approach based on the representative survey conducted for Western Balkan economies. As certain proportion of UE probably stays undetected by the survey which depends on willingness of participants to provide honest answers, it is to be treated as the lower limit of the overall unofficial economy.
- estimates based on the combination of MIMIC and Eurostat approach. MIMIC model is applied for the set of new member states and Western Balkan economies. Indices from MIMIC are transformed into UE share in GDP by benchmarking procedure based on results of the Eurostat approach for the set of new member states economies (instead of the monetary approach used by Medina and Schneider, 2018).
- estimates of income generated by illegal activities, not covered by MIMIC approach (prostitution, distribution of drugs, alcohol smuggling), are based on the estimates from previous studies (Blades, 2011), while income related to tobacco smuggling is based on the Western Balkans survey.

### 5.2 Size of undeclared work in Western Balkan economies based on survey

Design of the survey on the use of tobacco products in Western Balkan economies, conducted in 2018, is described in the previous chapter. Except for questions primarily related to smoking habits, the survey included a set of questions on the respondents' personal experience with undeclared work. Methodology and questions related to unofficial activities were based on the Eurobarometer survey (European Commission, 2014b) carried out by TNS Opinion & Social network in European Union's 27 member states and in Croatia in 2013. In the European Commission Communication (European Commission, 1998), undeclared work is defined as "paid activities that are lawful as regards their nature but not declared to public authorities, taking into account differences in the regulatory system of Member States." The definition clearly excludes illegal activities defined by national laws which are not fully harmonized with the European system of national accounts, where illegal activities are included in the total economic activity.

The survey covers the respondents' experiences with undeclared work (UDW) in terms of:

- demand for products delivered by persons engaged in UDW: payments for goods or services in the last 12 months when an individual had good reasons to believe that supplier was engaged in undeclared work.

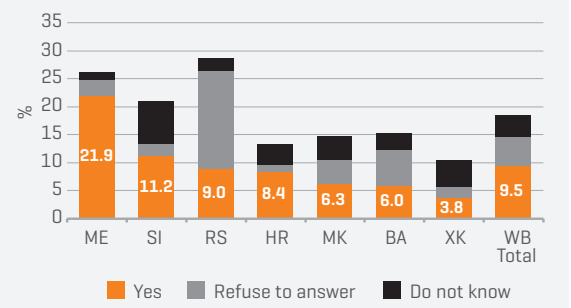
[13] A more in-depth discussion on the advantages and disadvantages of those approaches can be found in many previous studies (Medina & Schneider, 2018; Breusch. 2005).


For such payments, respondents were asked to provide information on the type of goods or services paid for in this way and approximate expenditures on goods/services.

- supply of UDW:
  - — existence and proportion of labor income received in cash and without declaring it to tax or social security authorities from regular employer in the last 12 months;
  - — existence of secondary undeclared labor, besides regular employment, that has been carried out in the last 12 months.

Approximately one in ten respondents (9.5 percent of the total number of persons interviewed in all Western Balkan economies) declared purchasing products for which they had good reasons to believe the products were linked to undeclared work (Figure 5.1).

**Figure 5.1:** Distribution of answers on personal experiences with purchasing products delivered by UDW sector




Source: Survey data.

While more than 20 percent of respondents in Montenegro declared their personal experience with demand for UDW products, the same indicator for Kosovo is only 3.8 percent. If all 21,000 of respondents are taken together, the following conclusions can be drawn (Table 5.1):

**Table 5.1:** Tendency to buy products delivered by UDW sector by socio-economic groups, in %

| | Croatia | Slovenia | Bosnia and Herzegovina | Serbia | Montenegro | North Macedonia | Kosovo | Western Balkans, all respondents |
|---|---|---|---|---|---|---|---|---|
| ALL RESPONDENTS | 8.4 | 11.2 | 6.0 | 9.0 | 21.9 | 6.3 | 3.8 | **9.5** |
| **GENDER** | | | | | | | | |
| Male | 10.7 | 14.8 | 6.5 | 7.9 | 22.1 | 5.3 | 3.6 | **10.2** |
| Female | 6.3 | 7.7 | 5.5 | 10.0 | 21.7 | 7.2 | 3.8 | **8.8** |
| **AGE** | | | | | | | | |
| 18–24 | 8.4 | 9.8 | 5.3 | 6.9 | 32.7 | 5.4 | 11.1 | **11.7** |
| 25–34 | 10.4 | 14.5 | 5.6 | 14.7 | 27.6 | 9.6 | 1.3 | **11.3** |
| 35–44 | 10.2 | 15.5 | 7.0 | 9.8 | 22.5 | 7.9 | 5.5 | **10.7** |
| 45–54 | 8.3 | 10.1 | 7.2 | 9.2 | 21.1 | 5.7 | 2.6 | **9.0** |
| 55–64 | 7.8 | 9.4 | 5.1 | 6.5 | 15.0 | 4.9 | 2.6 | **7.8** |
| 65+ | 6.1 | 8.3 | 5.2 | 6.8 | 17.5 | 2.9 | 0.3 | **7.3** |
| **EDUCATION** | | | | | | | | |
| Elementary school or less | 4.4 | 6.2 | 2.2 | 3.4 | 4.7 | 3.8 | 0.0 | **2.1** |
| High school | 8.3 | 9.9 | 5.6 | 8.4 | 22.7 | 5.8 | 7.2 | **10.0** |
| College, university or higher | 9.5 | 13.2 | 8.6 | 12.5 | 23.0 | 8.8 | 4.6 | **12.4** |
| **INCOME LEVEL** | | | | | | | | |
| Below average | 6.9 | 8.7 | 2.5 | 8.9 | 18.5 | 6.2 | 5.8 | **7.7** |
| Average | 7.9 | 10.8 | 5.1 | 9.2 | 25.0 | 8.2 | 2.4 | **11.4** |
| Above average | 13.4 | 19.1 | 10.4 | 12.0 | 20.8 | 15.8 | 5.3 | **14.9** |
| **SETTLEMENT SIZE** | | | | | | | | |
| Up to 2,000 | 7.1 | 9.8 | 6.5 | 6.4 | 22.2 | 6.1 | 3.3 | **8.6** |
| 2,001–10,000 | 8.8 | 11.5 | 7.1 | 8.8 | 10.6 | 4.6 | 1.4 | **8.3** |
| 10,001–100,000 | 8.4 | 9.8 | 7.1 | 9.7 | 17.9 | 5.5 | 1.7 | **8.7** |
| More than 100,000 | 10.0 | 15.3 | 1.0 | 10.8 | 31.2 | 8.9 | 14.6 | **13.5** |

Source: Survey data.

- men have greater tendency to purchase undeclared goods or services (10.2 percent) compared to women (8.8 percent);

- younger population is more likely to buy products delivered by UDW sector;

- purchasing of goods and services delivered by UDW sector in the Western Balkans is not to be considered primarily as a social buffer. Persons with higher education and above average income expressed the highest tendency to buy UDW products;

- market size is one of the most important determinants for the development of unofficial economy, while possibilities for purchasing services provided by UDW are more diversified in larger cities than in small rural communities.

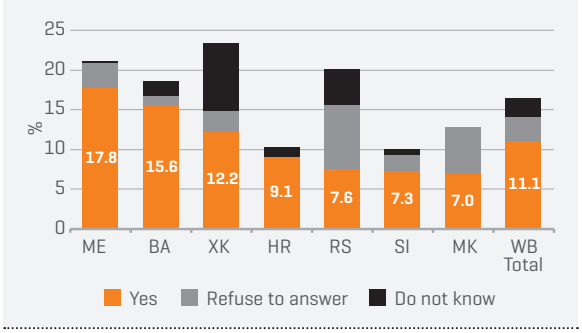
When it comes to the structure of goods and services bought on the gray market, tobacco products are one of the three most important items in each of the seven Western Balkan economies. Except for tobacco, the most important items delivered by unofficial sector are household maintenance services, construction works, car repair, and various personal services, such as hair styling or cosmetics services, while food, cosmetics, clothes, and shoes are important only in a few economies.

The survey examines the supply side of UDW with two questions:

- Hidden income or regular employees: "Sometimes employers prefer to pay the entire or part of the regular salary, remuneration for extra work or overtime hours cash-in-hand and without declaring it to tax or social security authorities. Did your employer pay all or part of your income in that way in the last 12 months?" (Figure 5.2)

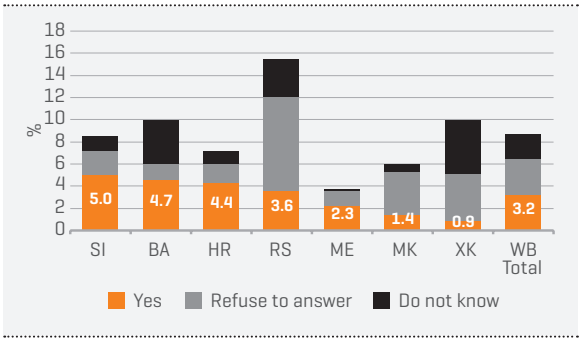
- Hidden income from secondary employment: "Except for your regular job/activity, did you carry out any undeclared activities in the last 12 months for which you were paid in money or in kind" (Figure 5.3)

**Figure 5.2:** Percentage of regular employees receiving underreported income




Source: Survey data.

**Figure 5.3:** Distribution of answers on the question about compensation for secondary undeclared activity in money or in kind




Source: Survey data.

One out of thirty adult persons in the region declared performing undeclared work, either as secondary employment, in the case of regular employees, or as an unreported job, for the rest of the population. The extent of this type of UDW is the most intensive in Slovenia, Bosnia and Herzegovina, and Croatia where four to five percent of adult respondents declared performing secondary labor activities. A high percentage of individuals in Serbia, North Macedonia, Bosnia and Herzegovina, and Kosovo who refused to answer the question or answered with "do not know" could point to the possibility that a certain percentage of respondents had not been willing to provide an honest answer. A higher percentage of male population, compared to the female population, performs UDW in Croatia, Slovenia, Bosnia and Herzegovina, and Montenegro. In Serbia, North Macedonia, and Kosovo the percentage of female population is slightly higher, but the difference is not statistically significant when the sampling error is included (Table 5.2).


**Table 5.2:** Socio-economic structure of persons with secondary undeclared employment, in %

| | Croatia | Slovenia | Bosnia and Herzegovina | Serbia | Montenegro | North Macedonia | Kosovo | Western Balkans, all respondents |
|---|---|---|---|---|---|---|---|---|
| ALL RESPONDENTS | 4.4 | 5.0 | 4.7 | 3.6 | 2.3 | 1.4 | 0.9 | **3.2** |
| **GENDER** | | | | | | | | |
| Male | 5.7 | 6.5 | 5.7 | 3.5 | 3.0 | 1.3 | 0.8 | **3.8** |
| Female | 3.2 | 3.5 | 3.7 | 3.8 | 1.5 | 1.4 | 1.0 | **2.6** |
| **AGE** | | | | | | | | |
| 18–24 | 9.7 | 10.9 | 4.2 | 3.9 | 3.6 | 2.7 | 1.1 | **4.8** |
| 25–34 | 6.2 | 10.6 | 5.8 | 7.7 | 5.0 | 2.5 | 2.2 | **5.4** |
| 35–44 | 6.7 | 6.6 | 5.4 | 4.1 | 2.9 | 1.1 | 0.6 | **3.7** |
| 45–54 | 3.3 | 2.4 | 5.5 | 3.7 | 2.5 | 1.1 | 0.4 | **2.7** |
| 55–64 | 3.0 | 3.2 | 4.3 | 2.1 | 0.7 | 0.4 | 0.4 | **2.1** |
| 65+ | 0.8 | 1.6 | 2.6 | 1.3 | 0.2 | 0.4 | 0.0 | **1.0** |
| **EDUCATION** | | | | | | | | |
| Elementary school or less | 2.7 | 2.0 | 1.8 | 3.1 | 0.7 | 1.5 | 0.0 | **1.1** |
| High school | 4.9 | 5.0 | 4.7 | 3.1 | 2.5 | 1.1 | 1.7 | **3.3** |
| College, university or higher | 3.9 | 5.4 | 5.9 | 5.2 | 1.8 | 1.9 | 1.6 | **4.0** |
| **INCOME LEVEL** | | | | | | | | |
| Below average | 3.9 | 5.1 | 1.6 | 4.5 | 1.8 | 1.3 | 1.6 | **2.9** |
| Average | 4.2 | 4.5 | 4.7 | 3.3 | 2.5 | 1.5 | 0.4 | **3.2** |
| Above average | 6.8 | 6.5 | 6.9 | 3.9 | 2.3 | 2.5 | 0.0 | **5.1** |
| **SETTLEMENT SIZE** | | | | | | | | |
| Up to 2,000 | 2.9 | 4.8 | 4.1 | 2.0 | 2.7 | 1.4 | 1.3 | **2.8** |
| 2,001–10,000 | 4.9 | 4.5 | 6.8 | 3.7 | 1.8 | 1.2 | 0.0 | **3.6** |
| 10,001–100,000 | 5.7 | 5.8 | 7.4 | 3.9 | 1.2 | 1.4 | 0.1 | **3.3** |
| More than 100,000 | 5.2 | 5.8 | 1.0 | 4.8 | 2.9 | 1.4 | 0.0 | **3.4** |

Source: Survey data.

In the majority of Western Balkan countries, there is a clear positive correlation between the level of education and tendency to perform UDW. It seems that educated persons, who can more easily find secondary undeclared employment, are more in favor of the structure of unofficial economy. Having in mind labor market conditions and the low level of protection of labor rights, persons with a lower education levels and regularly employed in trade, construction, catering services or other labor-intensive industries often work more than eight hours per day for a regular wage and are not likely to have free time or energy to engage in a secondary job. Contrary to the previous studies which found that undeclared work is usually a social buffer, these survey results indicate that, in the majority of the studied economies, persons with higher education levels and with above average income are more likely to engage in undeclared work.

Except for information on participation in UDW supply and demand, as presented in figures 5.2 to 5.4), the survey provided additional information on the amounts spent on UDW goods and services, percentage of labor income which regular employees earned without declaring it to tax authorities, and the amount of compensation received for secondary undeclared employment. In order to transform relative indicators into total income generated by UDW, a set of official macroeconomic indicators was used, which included the number of total adult population, the number of employees, the total amount of wages and salaries, income tax and contribution rates, and national accounts data.

The question on personal experience with UDW is related to the traditional concept of social (un)desirability. A person could refuse to answer if they perceived that an honest answer could be socially unacceptable or undesirable (Tourangeau & Yan, 2007). Leeuw and Hox (2008) suggest that how missing data will be treated depends on their randomness. If a person refused to answer the question, it is more probable that this person

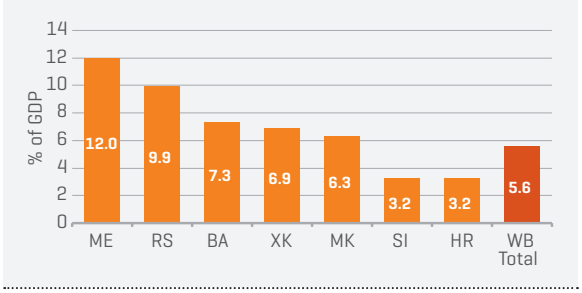
would work in undeclared employment than that he or she would not work in undeclared employment. The estimates on the actual share of participation in supply or demand for undeclared work are therefore based on the following assumptions:

- two-thirds of respondents who refused to answer are active in UDW (i.e. the probability that a person from the group of respondents who refused to answer participated in UDW is 66.6 percent), and

- one-third of persons who responded with "do not know" are active in UDW (i.e. the probability that a person from the group of respondents who answered with "do not know" participated in UDW is 33.3 percent).

Total income generated by UDW in the region is estimated at more than EUR 9 billion and on average amounts to 6.7 percent of gross value added (GVA) or 5.6 percent of GDP (Figure 5.4). It is estimated that the highest share of UDW income in gross value added can be found in Montenegro (14.5 percent) and Serbia (12.1 percent). On the other hand, more developed economies, Slovenia and Croatia, are estimated to have the lowest share of UDW, little less than four percent of official GVA (Table 5.3).

**Figure 5.4:** Total income related to UDW




Source: Authors' calculation based on survey.

## 5.3 Unofficial economy in the Western Balkans based on a combination of MIMIC and Eurostat approaches

The MIMIC model is considered to be a special type of structural equation modelling (SEM) used primarily in social sciences research and psychometrics. Theoretical background and the application of the method in economic studies, particularly related to the unofficial economy, are described in detail in many previous studies conducted by Schneider et al. (an exhaustive list of previous studies are available in Medina & Schneider, 2018). The main purpose of the MIMIC model is to examine the influence of a set

**Table 5.3:** Total income generated by UDW, in EUR million

| | Croatia | Slovenia | Bosnia and Herzegovina | Serbia | Montenegro | North Macedonia | Kosovo | Western Balkans, all respondents |
|---|---|---|---|---|---|---|---|---|
| Net envelope wage received by regular employees | **476.35** | 364.61 | 446.74 | 1,161.67 | 91.39 | 265.02 | 104.42 | **2,910.19** |
| Compensation for unreported secondary employment | **569.92** | 495.46 | 301.63 | 1,194.30 | 192.25 | 191.75 | 215.31 | **3,160.61** |
| Income retained by producers related to evasion of income taxes and social contributions | **322.70** | 377.89 | 207.78 | 752.14 | 125.83 | 100.30 | 41.44 | **1,928.07** |
| Income retained by producers related to evasion of taxes on products | **219.12** | 134.72 | 155.52 | 552.41 | 64.66 | 74.42 | 82.97 | **1,283.82** |
| **Total UDW income** | **1,588.09** | **1,372.68** | **1,111.66** | **3,660.52** | **474.12** | **631.49** | **444.13** | **9,282.68** |
| **UDW income, in % of gross value added** | **3.9** | **3.7** | **8.6** | **12.1** | **14.5** | **7.2** | **8.6** | **6.7** |
| **UDW income, in % of GDP** | **3.2** | **3.2** | **7.3** | **9.9** | **12.0** | **6.3** | **6.9** | **5.6** |

Note: In terms of Eurostat terminology, UDW income estimated by survey approach includes only N1 and N6 type of non-observed economy (underground producers and deliberate misspecification of income).

Source: Authors' calculations based on survey.


of exogenous causal variables on the unofficial economy, which is treated as a latent unobservable variable. At the same time, the model examines the effect of the unofficial economy on a set of macroeconomic indicators. MIMIC results usually confirm intuitive expectations not only in trends, but also in the relative position of a particular economy in terms of the size of unofficial economy:

- If the size of government increases, unofficial economy is expected to increase as well, and vice versa; the higher share of UE is expected for economies with heavier tax burden;
- Improved institutional framework reduces the size of UE; economies with better institutional framework are expected to have UE of a smaller size;
- Economic development reduces unofficial economy: UE of a smaller size is expected in more developed economies;
- A better situation on the labor market reduces people's willingness to work undeclared; UE is expected to be bigger in economies where the unemployment rate is high.

Parameters estimated by the MIMIC approach provide an analytical tool for expressing intuitive expectations based on causes and indicators in only one synthetic measure by weighting the estimated importance of each variable assumed to cause UE. Parameters of the MIMIC model are estimated for the period 2001–2017 and the model includes 19 new member states and Western Balkan economies (13 member states which joined the EU in 2004, 2007, and 2013, plus Albania, Bosnia and Herzegovina, North Macedonia, Kosovo, Montenegro, and Serbia). Government size, GDP per capita (constant USD 2010), the unemployment rate, openness to trade, and the rule of law are considered to be significant in explaining the trend of UE. Indices derived from the MIMIC approach were converted to absolute values by using a benchmark value for a set of new member states based on the Eurostat approach.[14] MIMIC results, expressed as the share of unofficial economy in GDP, are presented in Table 5.4 and Figure 5.5.

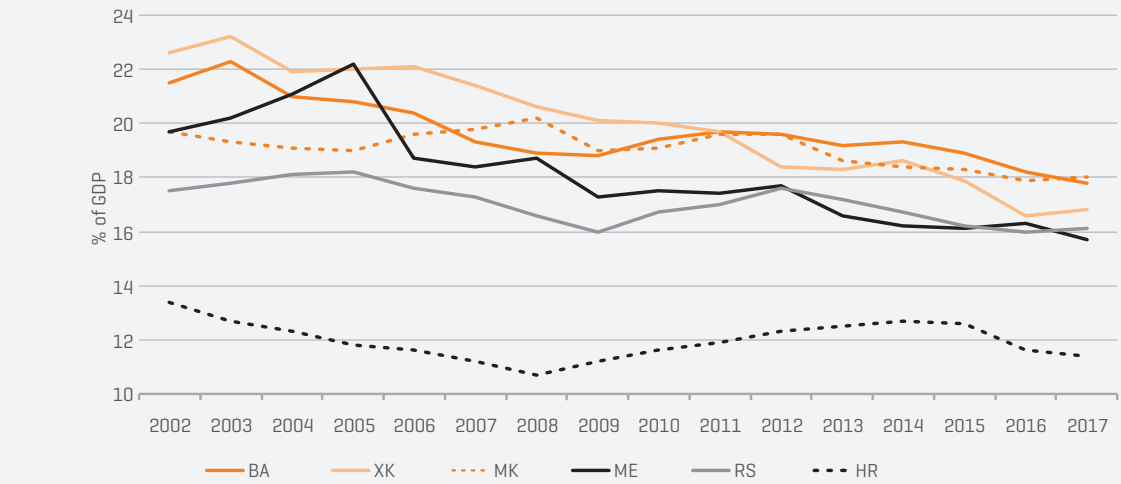
Unofficial economy in all of Western Balkan countries is estimated to decrease in comparison to the beginning of the century. Improvements in the institutional framework, economic development, and better labor market performance contributed to the transition of underground producers towards the official sector. In most of the economies, UE was decreasing in the period between 2002 and 2009 when the global crisis reversed the trend. Intensity and duration of economic recession were different in Western Balkan countries. Generally, downturn phase of the economic cycle has been partially compensated by growth in hidden economy. While some economies returned to the positive growth shortly after 2010, the Croatian economy had been stagnating until 2014 and growth in the hidden economy could be interpreted as adjustment of economic units to the poor economic situation. In the recent period, all of Western Balkan economies have been improving their institutional framework in the process of harmonization with the EU legislation, which resulted, together with stable economic prospects, in decreasing the UE trend. However, on average, unofficial economy in the Western

**Table 5.4:** Estimate of the unofficial economy in Western Balkan economies based on the combination of MIMIC and Eurostat approaches, excluding illegal activities, in percentage of GDP

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | Average (2002–2017) | Difference 2017–2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bosnia and Herzegovina | 21.5 | 22.3 | 21.0 | 20.8 | 20.4 | 19.3 | 18.9 | 18.8 | 19.4 | 19.7 | 19.6 | 19.2 | 19.3 | 18.9 | 18.2 | 17.8 | 19.7 | -3.7 |
| Croatia | 13.4 | 12.7 | 12.3 | 11.8 | 11.6 | 11.2 | 10.7 | 11.2 | 11.6 | 11.9 | 12.3 | 12.5 | 12.7 | 12.6 | 11.6 | 11.4 | 12.0 | -2.0 |
| Kosovo | 22.6 | 23.2 | 21.9 | 22.0 | 22.1 | 21.4 | 20.6 | 20.1 | 20.0 | 19.7 | 18.4 | 18.3 | 18.6 | 17.9 | 16.6 | 16.8 | 20.0 | -5.7 |
| Macedonia | 19.7 | 19.3 | 19.1 | 19.0 | 19.6 | 19.8 | 20.2 | 19.0 | 19.1 | 19.6 | 19.6 | 18.6 | 18.4 | 18.3 | 17.9 | 18.0 | 19.1 | -1.8 |
| Montenegro | 19.7 | 20.2 | 21.1 | 22.2 | 18.7 | 18.4 | 18.7 | 17.3 | 17.5 | 17.4 | 17.7 | 16.6 | 16.2 | 16.1 | 16.3 | 15.7 | 18.1 | -3.9 |
| Serbia | 17.5 | 17.8 | 18.1 | 18.2 | 17.6 | 17.3 | 16.6 | 16.0 | 16.7 | 17.0 | 17.6 | 17.2 | 16.7 | 16.2 | 16.0 | 16.1 | 17.0 | -1.4 |
| Slovenia | 7.6 | 7.4 | 7.4 | 7.6 | 7.3 | 6.5 | 6.1 | 6.8 | 7.7 | 8.2 | 8.8 | 8.9 | 8.3 | 8.1 | 7.6 | 7.2 | 7.6 | -0.3 |
| Average | 17.4 | 17.6 | 17.3 | 17.4 | 16.8 | 16.3 | 16.0 | 15.6 | 16.0 | 16.2 | 16.3 | 15.9 | 15.7 | 15.4 | 14.9 | 14.7 | 16.2 | -2.7 |

[14] On average, non-observed economy (excluding illegal activities) in the five new member states amounts to 11.5 percent of GDP.

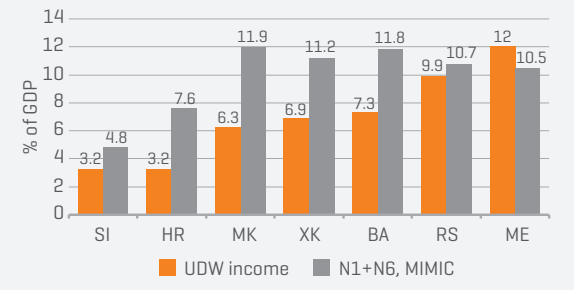
**Figure 5.5:** Estimate of the unofficial economy, excluding illegal activities, for Western Balkan economies




Balkans (measured as a share of GDP) is expected to be almost 50 percent higher in comparison to new member states used as a benchmark.

Figure 5.6 compares UDW estimates based on survey results and the MIMIC approach. The MIMIC model indicates that the size of the underground economy is almost double than the size of the underground economy estimated from the survey results in each of the Western Balkan economies, except Montenegro. It seems that respondents from Montenegro are reluctant to provide honest answers about their own participation in the hidden activities.

**Figure 5.6:** Comparison of undeclared income based on survey results and underground economy estimated by the MIMIC approach*




Note: * Based on the results of the Eurostat approach for other new member states, it is assumed that underground economy (N1+N6) represents 63.3 percent of the total unofficial economy (without illegal activities).

Source: Authors' calculations.

## 5.4 Tobacco smuggling and other illegal activities

Definition of the unofficial economy does not include illegal activities (Schneider & Buehn, 2016), which should, therefore, be estimated separately. Estimate of the value added of illegal activities is based on our survey results for tobacco smuggling and previous studies for other types of illegal incomes in Western Balkan countries (Blades, 2011). Survey data on tobacco use provide information on tobacco products bought on the gray market. Buyers of tobacco products were asked if they usually bought products domestically or abroad, and if purchases had been made on regular or on the gray market. People who live close to international borders sometimes buy tobacco products for personal consumption in the neighboring country, because of lower taxation. This should, generally, not to be treated as illegal transaction. National legislation usually allows importing products in limited quantities for own personal consumption.

On the other hand, hidden import of tobacco products for the purpose of resale at higher prices should be treated as illegal activity. This could be a small scale operation in the form of supplying friends and acquaintances. A more serious form of illegal tobacco supply is related to organized distribution of products on the street or under the counter.

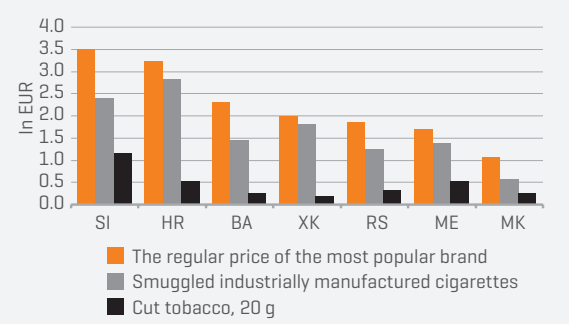

Estimate of the size of gray tobacco market is based on survey results which provide data on smoking prevalence, quantities, and values usually bought on the gray market. Unit of the trade margin related to tobacco smuggling is estimated as the difference between the prices realized on the gray market and unit producer price (or import price in the case of imported tobacco) on the local market.

Croatia and Slovenia apply the EU rules on taxation of tobacco products and the price level is significantly higher in comparison to other Western Balkan economies. Croats living near the Bosnian and Herzegovinian or the Serbian borders often make "shopping tours" across the border, due to significant price differences, not only for tobacco products, but also for other heavy taxed products such as oil derivatives or alcohol.

The most important indicator of the intensity of tobacco smuggling is the share of smokers who reported they usually bought tobacco on the gray market (Table 5.5). The highest share, even above 20 percent is reported for Montenegro and Bosnia and Herzegovina. On the other hand, only 3 percent of Slovenians and 3.8 percent of Macedonians buy tobacco on the gray market. Higher living standards and better institutional framework explain low tendency to buy tobacco on the gray market in Slovenia. On the other hand, small gray tobacco market in Macedonia is probably related to the lowest tobacco prices on the regular market in the entire Western Balkans. Smokers who usually buy tobacco products on the gray market were asked to provide information on the quantity of tobacco products they buy and the amount of money they spend for that purpose. Figure 5.7 demonstrates price differences on the regular and the gray tobacco market as the main factor behind the gray market expansion.

The price of a pack of twenty smuggled industrially manufactured cigarettes is 10 to even 50 percent lower than the regular price of the most popular brand. Equivalent quantity of cut tobacco (one gram of cut tobacco is expected to be used for rolling up one cigarette) is ten times less expensive than a pack bought on the regular market. A high percentage of smokers in Western Balkan economies uses cut tobacco in order to compensate for high prices of regular industrially manufactured cigarettes.

**Figure 5.7:** Prices of tobacco products on the regular and the gray market




Sources: World Health Organization (2017) for the price of the most popular brand on the regular market, and survey data for prices of cigarettes and cut tobacco on the gray market.

Based on the percentage of smokers buying on the gray market and prices of smuggled industrially manufactured

**Table 5.5:** Survey results on the tendency to buy tobacco products on the gray market

| | Croatia | Slovenia | Bosnia and Herzegovina | Serbia | Montenegro | North Macedonia | Kosovo |
|---|---|---|---|---|---|---|---|
| Smoking prevalence, in % of the adult population | 32.5 | 24.5 | 42.6 | 36.8 | 37.7 | 38.8 | 40.9 |
| Quantity of tobacco products usually smoked in one day | | | | | | | |
| Industrially manufactured cigarettes | 14.5 | 11.9 | 13.6 | 16.9 | 18.8 | 18.2 | 21.4 |
| Cut tobacco which I roll or stuff in cigarettes by myself | 16.2 | 10.5 | 16.4 | 19.0 | 21.6 | 20.2 | 8.7 |
| Share of smokers who usually buy tobacco across the border, in % | 7.2 | 5.7 | 1.3 | 0.3 | 0.0 | 0.0 | 0.1 |
| Share of smokers who usually buy tobacco on the gray market, in % | 7.6 | 3.3 | 20.3 | 6.5 | 27.9 | 3.8 | 6.3 |

Source: Survey data.

**Table 5.6:** An estimate of illegal income derived from tobacco smuggling

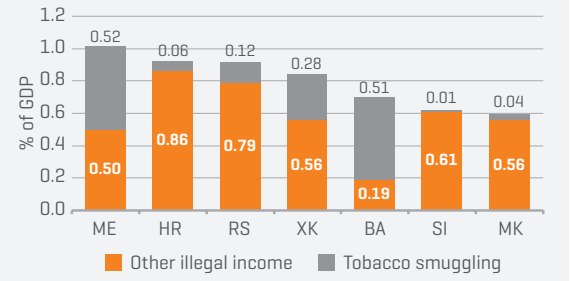
| | Croatia | Slovenia | Bosnia and Herzegovina | Serbia | Montenegro | North Macedonia | Kosovo | Total Western Balkans |
|---|---|---|---|---|---|---|---|---|
| Expenditures for the tobacco products on the gray market, in EUR million | 39.75 | 7.21 | 96.67 | 56.21 | 25.52 | 4.63 | 22.42 | **252.41** |
| Intermediate consumption (20% revenues), in EUR million | 7.95 | 1.44 | 19.33 | 11.24 | 5.11 | 0.93 | 4.49 | **50.48** |
| Gross value added, in EUR million | 31.80 | 5.77 | 77.33 | 44.97 | 20.42 | 3.71 | 17.94 | **201.93** |
| GVA related to tobacco smuggling, in % of GDP | 0.06 | 0.01 | 0.51 | 0.12 | 0.52 | 0.04 | 0.28 | **0.22** |

Source: Authors' calculations based on survey results.

cigarettes and cut tobacco, it is possible to make an estimate of total expenditures on the gray market. Producer or import prices of cigarettes (without taxes) generally form only ten percent of the retail market price and the difference between prices charged on the gray market and producer prices represents illegal trade margin retained by a smuggler. Gross value added related to tobacco smuggling is based on the assumption that total costs of the tobacco bought for resale on the gray market and intermediate consumption (costs of transportation and similar costs incurred by the smuggling industry) represent 20 percent of revenues derived from the smuggling activity. Table 5.6 represents an estimate of illegal value added of tobacco smuggling.

**In the entire Western Balkans territory, income derived from tobacco smuggling is estimated at more than EUR 200 million or 0.22 percent of GDP.** In Bosnia and Herzegovina and Montenegro, illegal income generated by tobacco smuggling amounts to more than 0.5 percent of GDP, while the lowest percentage is estimated in Slovenia. Total illegal income, including estimates for drugs and prostitution from previous studies and illegal income derived from tobacco smuggling, is presented in Figure 5.8. Estimates for GVA related to other illegal activities (narcotics, drugs, and trafficking) are not available for Kosovo and Macedonia in Blades (2011), while an average for other Western Balkan economies is used as an approximation. The highest percentage of illegal income is estimated for Montenegro with dominant share of tobacco smuggling. The lowest percentage of illegal activity is estimated for Slovenia and Macedonia.

**Figure 5.8:** Estimate of GVA related to illegal activities




Sources: Authors' calculations for tobacco smuggling; Blades (2011) for other illegal income.

## 5.5 Negative effects of tobacco smuggling on public revenues and the official sector

### 5.5.1 The role of tobacco smuggling in the overall government revenues lost due to the unofficial economy

An estimate of government revenues not collected due to the existence of unofficial economy is based on the size of underground economy (N1+N6). Underground economy includes taxes that are actually charged to the final customer, but are retained by the producer and not redistributed to the budget. As defined above, this type of tax evasion is exclusively undertaken without complicity of the final user. In addition to passive tax evasion (without complicity), a certain part of government revenues is not collected because of active tax evasion when the final user is aware of the fact that the price of certain goods or services is lower because taxes are not included in total costs. Total value of tax evasion in each of Western


Balkan economies is estimated by applying coefficients of tax burden: an average ratio of labor income taxes and social contribution to net wages and ratio of net taxes on products to GVA in the overall economy. As structural features of the unofficial economy are primarily based on the survey which was conducted in 2018, tax evasion for 2017 is estimated as the last year for which official national accounts data are available. Tax burden differs among economies and, therefore, the share of tax evasion in certain economies is lower than the share of underground economy. For example, in Kosovo, taxation of labor income is low, resulting in a lower value of tax evasion despite a relatively broad extent of underground activities.

**It is estimated that approximately EUR 7.5 billion of taxes are evaded annually in the entire Western Balkans territory.** In absolute terms, it is estimated that Croatia and Serbia have the highest level of tax evasion. In relative terms (as a share of officially announced GDP), tax evasion is the highest in Bosnia and Herzegovina and in Montenegro (Table 5.7).

The role of tobacco smuggling in the overall tax evasion differs among Western Balkan economies. It should be emphasized that there is a difference between tax avoidance and tax evasion. While tax avoidance can be defined as legally allowed deductions or procedures which reduce the tax burden, but are not forbidden by a law, tax evasion is related to illegal and deliberate misreporting of economic activities to the tax authorities. In the context of tobacco use, when a person buys a product on the foreign market, due to lower prices and lower taxation, but in quantities which are allowed into the domestic economy according to the customs regulation, this should be treated as legal tax avoidance. Smokers make savings due to lower prices, but no income is generated in the national accounts as the result of a transaction of this kind. However, when macroeconomic effects of potential increase in taxation of tobacco products are in question, this should account for not only tax evasion, but also legal tax avoidance, due to cross-border shopping.

Total value of tax evasion can be calculated based on our survey results and the structure of prices on the regular and the gray market. Negative effects of tobacco smuggling in terms of uncollected taxes are more significant than effects in terms of gross value added. In absolute values, uncollected tobacco taxes in the region are above EUR 306 million annually. The highest amount of uncollected tobacco taxes was recorded in Bosnia and Herzegovina and Croatia where over EUR 100 million of tobacco taxes were not collected due to tax evasion or avoidance. In relative terms, the **share of uncollected tobacco taxes in overall tax evasion is the highest in Bosnia and Herzegovina, Montenegro, and Croatia**. More affordable tobacco prices in Macedonia explain the relatively low tobacco tax evasion there (Table 5.8).

**Table 5.7:** An estimate of tax evasion in 2017, in EUR million

| | Croatia | Slovenia | Bosnia and Herzegovina | Serbia | Montenegro | North Macedonia | Kosovo | Total Western Balkans |
|---|---|---|---|---|---|---|---|---|
| **Tax evasion without complicity/passive tax evasion** | **1,269** | **773** | **590** | **1,403** | **191** | **332** | **201** | **4,758** |
| Labor income taxes | 756 | 570 | 338 | 809 | 126 | 191 | 67 | **2,855** |
| Taxes on products | 513 | 203 | 253 | 594 | 65 | 141 | 134 | **1,903** |
| **Tax evasion with complicity/active tax evasion** | **546** | **520** | **592** | **590** | **100** | **325** | **13** | **2,686** |
| Labor income taxes and social contributions | 378 | 442 | 524 | 469 | 79 | 305 | 12 | **2,210** |
| Taxes on products | 168 | 78 | 68 | 121 | 21 | 20 | 1 | **477** |
| **Total tax evasion** | **1,816** | **1,293** | **1,182** | **1,993** | **290** | **657** | **214** | **7,445** |
| **Tax evasion, in % of GDP** | **3.7** | **3.0** | **7.7** | **5.4** | **7.3** | **6.5** | **3.3** | **4.5** |

Source: Authors' calculations.

**Table 5.8:** Tobacco taxes uncollected due to tax evasion and tax avoidance

| | Croatia | Slovenia | Bosnia and Herzegovina | Serbia | Montenegro | North Macedonia | Kosovo |
|---|---|---|---|---|---|---|---|
| **Taxes evaded due to tobacco smuggling, in EUR million** | **59.22** | **8.55** | **129.07** | **64.72** | **23.28** | **6.24** | **15.69** |
| VAT | 15.34 | 1.96 | 22.20 | 13.91 | 4.97 | 1.34 | 3.83 |
| Excises | 43.88 | 6.59 | 105.19 | 50.81 | 18.31 | 4.90 | 11.10 |
| Import duties | | | 1.68 | | | | 0.77 |
| **Taxes uncollected due to cross-border shopping, in EUR million** | **60.83** | **15.40** | **8.55** | **2.72** | | | **0.13** |
| VAT | 15.76 | 3.53 | 1.47 | 0.58 | | | 0.03 |
| Excises | 45.07 | 11.87 | 6.96 | 2.13 | | | 0.09 |
| Import duties | | | 0.11 | | | | 0.01 |
| **Total uncollected tobacco taxes, in EUR million** | **120.04** | **23.95** | **137.62** | **67.43** | **23.28** | **6.24** | **15.82** |
| VAT | 31.10 | 5.49 | 23.67 | 14.49 | 4.97 | 1.34 | 3.86 |
| Excises | 88.95 | 18.46 | 112.15 | 52.94 | 18.31 | 4.90 | 11.20 |
| Import duties | | | 1.80 | | | | 0.77 |
| **Total uncollected tobacco taxes, in % of GDP** | **0.2** | **0.1** | **0.9** | **0.2** | **0.6** | **0.1** | **0.2** |
| **Total uncollected tobacco taxes, as a share of total tax evasion, in %** | **6.6** | **1.9** | **11.6** | **3.4** | **8.0** | **1.0** | **7.4** |

Source: Authors' calculations.

### 5.5.2 Negative impact of tobacco smuggling on the official sector

Development of the gray tobacco market has a negative effect on the official producers and distributors of tobacco products. Decreased demand for tobacco delivered by official producers has an indirect effect on the activity of all domestic actors included in value added chain of tobacco industry. Total multiplicative effects, which include direct, indirect, and induced effects, could be estimated by input-output (I-O) model. **Direct negative effects of tobacco smuggling are related to a decrease in revenues and employment in the tobacco industry. Indirectly, smuggling affects all economic sectors which deliver goods and services required in the production of tobacco products:** tobacco farmers, tobacco leaf dryers, producers of filters and paper products, chemical industry, and many other suppliers of intermediate goods and services. Companies engaged by tobacco industry also require various raw materials, energy, and other intermediate inputs in their production processes. Negative effects of gray tobacco market, therefore, do not stop on direct suppliers of tobacco industry, but spill over to many industries included in the overall value added chain.

Decrease of revenues along value added chain of tobacco industry, due to the existence of gray tobacco market, also reduces the number of jobs in the official sector and, thus, affects the purchasing power of employees and their demand for consumer goods and services. Decreased economic activity in companies which produce goods and services usually bought by final consumers is defined as induced effects. Development of the gray tobacco market reduces tax revenues and consequently the scope and quality of government services. Increase of government consumption financed by additional taxes collected by elimination of the gray tobacco market would potentially induce multiplicative economic effects.

Total effects of gray tobacco market on the official producers are estimated by application of the standard I-O model. The estimated value of the gray tobacco market is treated as a decrease in the final demand for tobacco in the official sector. Effects on the Croatian economy are only estimated, due to the lack of official input-output table or other data limitations for other Western Balkan countries. However, estimates for Croatia are expressed in relative terms, i.e. as negative effects induced by 1,000 smokers supplied by non-regular channels (last row of Table 5.9).


**Table 5.9:** Total negative effects of tobacco gray market on the official sector in Croatia, in 2017

| Reduction in the economic activity | Output | Gross value added | Employment |
|---|---|---|---|
| | In HRK million | | Number of jobs, annual equivalent |
| Tobacco producers | 105.38 | 35.22 | 80 |
| Distributors | 158.07 | 77.36 | 739 |
| Suppliers of intermediate inputs | 136.90 | 60.75 | 384 |
| Total value added chain of tobacco producers | 400.36 | 173.34 | 1,203 |
| Effects of reduced government services | 2,050.58 | 1,136.97 | 6,448 |
| **Total negative economic effects** | **2,450.93** | **1,310.30** | **7,652** |
| Negative effects, in EUR million | 329.83 | 176.33 | - |
| **Negative effects, in % of total Croatian economy** | **0.43** | **0.44** | **0.48** |
| Effects induced by 1,000 smokers buying tobacco products on the gray market | | EUR 1.072 million | 47 jobs on annual level |

Source: Authors' calculations.

**Tobacco smuggling is estimated to reduce the Croatian gross value added by 0.44 percent and employment by 0.48 percent. Total effects of reduced volume of government services, due to tobacco taxes avoidance, are significantly higher than direct effects on tobacco producers and distributers. More than 7,500 jobs could be induced in the Croatian economy by eliminating the gray tobacco market.** It can be concluded that economic costs borne by official units are significantly higher than income generated by illegal distributors of tobacco products. **One thousand smokers buying tobacco products on the gray market reduce the official gross value added by over EUR 1 million and cause the loss of approximately 50 jobs on an annual level.**

If indirect and induced effects are taken into consideration, negative effects suffered directly by tobacco producers are estimated to represent only one percent of the total number of jobs lost in Croatia or three percent of reduced GVA. Gray tobacco market induced strongest negative effects on the public sector. It is interesting to note that, due to the differences in labor productivity, gray tobacco market induced stronger negative effects on job reduction in agriculture than on producers of final tobacco products (Table 5.10).

**Table 5.10:** Structure of the negative effects of tobacco gray market on the Croatian official sectors

| Effects by industry | Gross value added, in HRK million | Employment, number of jobs, annual equivalent |
|---|---|---|
| Tobacco industry | 35.22 | 80 |
| Distributors of tobacco products | 77.36 | 739 |
| Agriculture | 11.99 | 131 |
| Industry | 34.42 | 168 |
| Private services | 119.12 | 574 |
| Public services | 1,032.19 | 5,960 |
| Total | 1,310.30 | 7,652 |

Source: Authors' calculations.

# 6 Conclusions and policy recommendations

Although it may be difficult to quantify illegal trade of tobacco products in the Western Balkans, this study shows that analyzing the experience of smokers buying on the tobacco gray market and surveying attitudes of citizens can help painting a more nuanced picture of patterns of illicit tobacco flows. The analysis offered in this report is not designed to rank countries, but rather to help understand the complex activities around the tobacco gray market in the region. However, every country has its specificities and there are no "one-size-fits-all" policy recommendations for curbing illegal tobacco trade.

Tobacco taxation and excise policy is an outstanding topic in all studies investigating illegal tobacco trade. This study does not provide a clear-cut answer about the effects of different scenarios of price changes, because publicly available data are not available, and one of the main recommendations of this study is to set up a database for sound policy measures.

However, results of this comprehensive survey provide evidence-based facts that reveal a more nuanced picture of the problem of gray tobacco market in the region. First of all, the survey indicates that, on average, 11 percent of smokers buy cigarettes and cut tobacco on the gray market. In Montenegro and Bosnia and Herzegovina – countries in which about 40 percent of adult population is smoking – every fifth smoker buys on the gray market. For example, in Croatia, where a comparatively modest share of smokers buys on the gray market (less than eight percent), the overall figures amount to approximately 88,000 of Croatian consumers on the tobacco gray market. Therefore, a part of the population that has to be targeted with policy measures is rather substantial.

Smokers buying on the gray tobacco market behave according to the market principles. Tobacco products on the gray market are up to ten times cheaper than those which are legal, affordable, and freely available for everyday purchases. Transactions on the gray market are rarely sanctioned, and only sellers are typically fined, but buyers are not. Earnings in illegal tobacco trade seem to be so huge that the business of tobacco smuggling offers high incentives to keep doing it, despite the risk of criminal offenses. Increased efforts of the customs control to prevent bigger smuggling activities have yielded encouraging results, at least in Croatia. Promoting successful actions in the media would raise bigger public awareness on the negative effects of illegal trade. Every report on customs and police actions should mention the market value of confiscated tobacco and the amount of tax and excise duties that should have been paid. With stronger border controls, surveillance of the so-called "green routes" and more frequent police actions directed against illegal tobacco factories, it is possible to reduce the supply side of the gray market of tobacco products.

The most problematic part of smokers are those buyers who believe there is nothing wrong with buying on the gray market, and who do not worry about the quality of illicit products. In some cases, better ratings of the quality of tobacco products on the gray market might result from availability of cigarette brands that could not otherwise be bought on the regular market. Indeed, illegally sold cigarettes and other tobacco products produced in illegal factories, are not only an economic problem of the gray market, but are also a major health problem. Cigarettes from illegal factories are uncontrolled, of unknown origin, and, therefore, of unknown quality. Tobacco products are sold in improvised packaging, without labels of the manufacturer, origin, and quality. In addition, such factories often do not meet the requirements on hygienic standards or have no control of the products regarding the various harmful ingredients that can be found in the final product, such as heavy metals, pesticides, etc. Cut tobacco produced on home farms often contain chicken feathers and animal waste and is being sold in the streets in open packages. Information on improper sanitary conditions might also discourage some smokers from buying illegal products.

Two main messages result from this study. According to the behavior and real experiences of tobacco gray market consumers, evident from the survey results, smokers will continue to buy on the gray market as long as they can there find tobacco products at a lesser price. The price gap is wider among countries which have higher excises, due to harmonization with the EU regulations, so that smokers from Croatia and Slovenia buy cigarettes across borders in Serbia and Bosnia and Herzegovina, although not necessarily on the gray market. Price differences cause cross-border shopping, as well as cross-border tobacco smuggling. Since survey respondents reported they had started buying illegally on the gray market, due to the price increases on the regular market and for other economic reasons, it can be assumed that a further


increase in taxation and tobacco products' prices would push more smokers towards the illegal zone. Instead of increased budget revenues, the official consumption is falling and revenues are decreasing in an absolute value. An increase of tobacco taxes and harmonization of excise duties should be introduced gradually and supported with other measures of curbing illegal tobacco trade. Indeed, what is needed is a careful analysis of scenarios in excise duties' changes, while reliable data for these simulations are lacking in all countries in the region.

Encouraging findings of this study are the positive opinions of the general public regarding the key points in combating illegal tobacco trade. Citizens across the region share the negative opinion on gray tobacco market, which they see as one of the major problems in their countries. The perception of tobacco smuggling as a criminal activity that goes hand in hand with other forms of organized crime makes a sound base for more determined repression actions. People are aware of the negative effects of illegal tobacco trade in terms of state budget losses and of the importance of the tobacco sector for national economies. However, the general public is not very well informed on the scale of these effects. With the growth of the gray market, legal tobacco producers are also at a loss, since their sale is decreasing due to a decreased demand. This leads to a reduction in production, purchase of tobacco from farmers, but also to a loss of jobs. The indirect effects on other industry sectors and public services are considerable as well, and these effects should be quantified and clearly presented to the public.

Only through coordinated cooperation between the state authorities of all countries located on the so-called Balkan route, increased controls, and considerably higher penalties, the gray market can be reduced. Such actions should involve all interested sectors – internal affairs, customs administration, tax administration, the judiciary, border police, as well as the legal tobacco industry. Moreover, by raising awareness among users of illegal tobacco products, by informing them of health risks and damages to the economy, efforts should be made to reduce the consumption of illegal cigarettes and tobacco.

Gray market of tobacco products in Skopje, April 2018.

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# Appendix

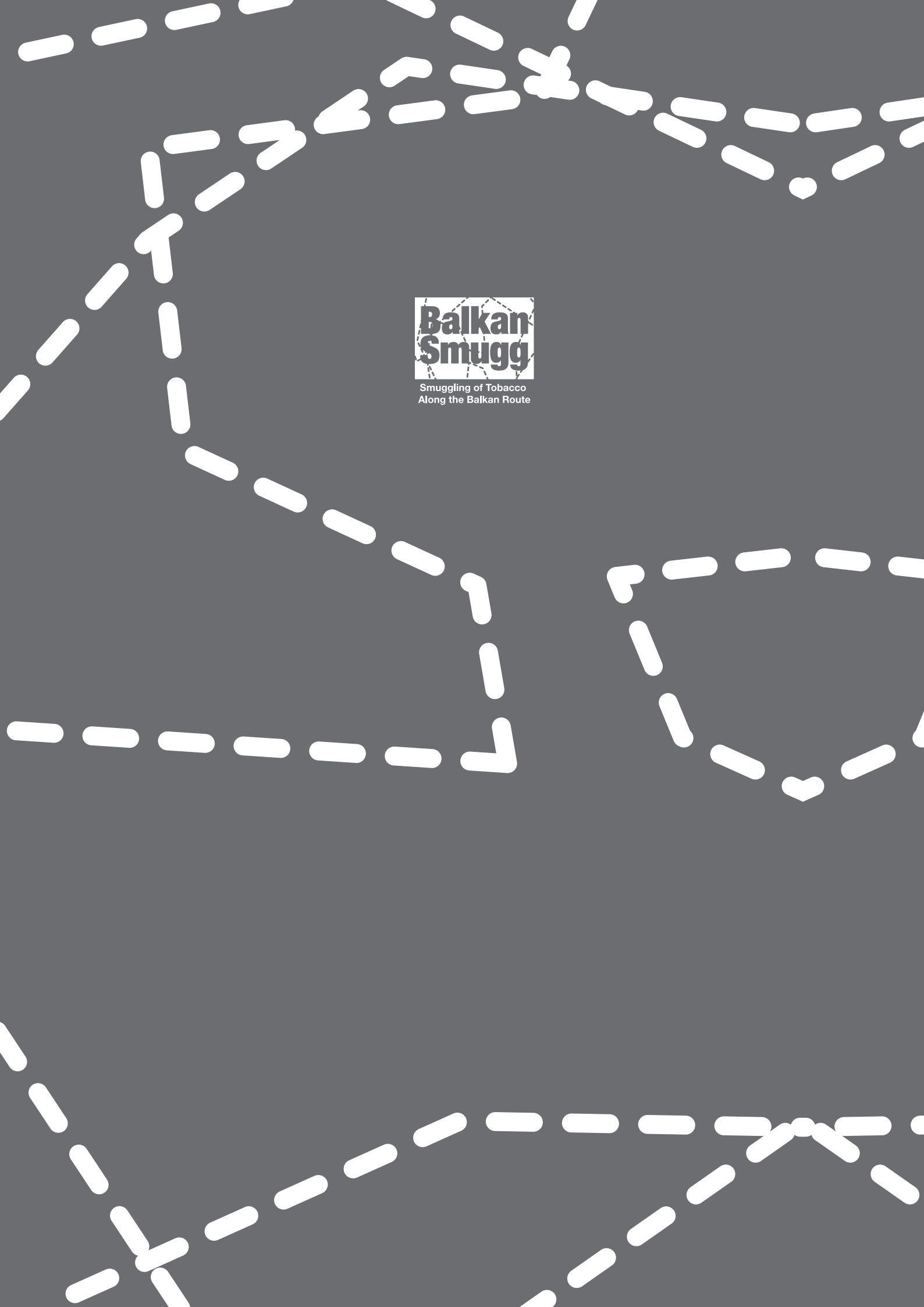
**Table A1:** Survey details

| | |
|---|---|
| Survey period | February – April 2018 |
| Target population | Resident population of seven countries (Bosnia and Herzegovina, Croatia, Kosovo, Montenegro, North Macedonia, Serbia, Slovenia); age group 18+, with smokers quota proportional to country smoking prevalence rate. |
| Sample design | Random sampling<br>Nationally representative sample |
| Quality control | Data collection quality control was done by re-contacting the respondents and cross-checking answers to selected questions with answers from the initial interview.<br>A minimum of 25 percent per interviewer is controlled.<br>Logic checks were conducted on the final dataset. |
| Net sample size | 21,013 |
| Response rate per country | Bosnia and Herzegovina: 27.1%<br>Croatia: 7.8%<br>Kosovo: 62.0%<br>Montenegro: 44.6%<br>North Macedonia: 50.7%<br>Serbia: 25.1%<br>Slovenia: 7.0% |
| Method | CATI (Computer Assisted Telephone Interviewing) |

**Table A2:** Summary statistics on sampled citizens, n=21,013

| **Sample characteristics** | **%** |
|---|---|
| **Gender** | |
| Men | 49.1 |
| Women | 50.9 |
| **Age** | |
| 18–24 | 10.1 |
| 25–34 | 17.2 |
| 35–44 | 18.2 |
| 45–54 | 17.7 |
| 55–64 | 16.8 |
| 65+ | 20.0 |
| **Education** | |
| Elementary school or less | 8.3 |
| High school | 59.5 |
| College, university or higher | 32.2 |
| **Occupation** | |
| Business-owner | 3.8 |
| Manager | 1.8 |
| Professional | 8.3 |
| Clerk | 10.2 |
| Worker | 25.7 |
| Retired | 25.7 |
| Student | 7.0 |
| Unemployed | 16.2 |
| Other | 1.3 |
| **Household income** | |
| Below average | 33.6 |
| Average | 32.8 |
| Above average | 16.8 |
| Refuse to answer | 16.8 |
| **Smoker** | |
| Yes | 35.9 |
| No | 64.1 |
| **Country** | |
| Bosnia and Herzegovina | 14.3 |
| Croatia | 14.3 |
| Kosovo | 14.3 |
| Montenegro | 14.3 |
| North Macedonia | 14.3 |
| Serbia | 14.3 |
| Slovenia | 14.3 |

The survey was conducted in seven countries of the Western Balkan region (Bosnia and Herzegovina, Croatia, Kosovo, Montenegro, North Macedonia, Serbia, and Slovenia). The data were collected from February to April 2018. The survey was administered with CATI (Computer Assisted Telephone Interviewing) method. The total sample consisted of 21,013 respondents, about 3,000 respondents from each country. Country samples were selected with random sampling technique and resulted in nationally representative samples. The target population for this survey were citizens aged 18+, with smokers' quota proportional to country smoking prevalence rate.


Balkan Smugg
Smuggling of Tobacco
Along the Balkan Route